Clinical Lecture
ON
ABDOMINAL TUMOUR.

Delivered at the London Hospital, Jan. 11th, 1876,

BY C. F. MAUNDER,
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GENTLEMEN,—I propose to address you to-day on a case which excited some interest when it was in the ward, by reason of the doubt which many of you had, before I saw it, concerning its nature—a doubt naturally raised by the positive statements of the patient. I often say and often request you in the wards to listen attentively to a patient's statement of his case, not with a view of necessarily acting upon it, for you must sift it, and discard that portion which you believe to be either unintentionally or wilfully untrue. I am afraid I must say that you should be more cautious with women than with men how you accept statements as regards their state of health. I believe it is not infrequent for women somewhat advanced in life, and who have been mothers, but with whom many years have elapsed since last pregnancy, to be uncertain about or even ignorant of their present and unexpected *enceinte* condition. I will read the case of the subject of this lecture.

Case of Abdominal Tumour (reported by Mr. T. W. Richardson).—Jane S——, married, admitted on Nov. 2nd, 1875, into the Princess Royal ward, under Mr. Maunder. The patient stated that she had been married four years and a half, and, until two years and a half ago, she had had fairly good health. Had had no children, but nine months after marriage thought she miscarried. Two years and a half previous to admission the patient had suffered from some inflammatory condition of vagina and vulva, which had lasted during six weeks, leaving the vaginal orifice much contracted. There was no medical advice sought during this illness. Menstruation had been regular until eleven months ago, when it ceased altogether. About this time she had noticed a small *lump in the left side* (about left ovary), which had gradually grown larger; also occasionally she had felt *darting pains* about the swelling, but insufficient to prevent sleep or distress her much. Had no "morning sickness"; no discomfort in defecation, nor painful micturition. Four months ago her *legs* had begun to *swell*.

When this patient was questioned as to the possibility of pregnancy, she said that such a thing could not have occurred by any chance, since, on account of this contraction of the vaginal orifice, attempts at coitus had been painful and unsuccessful, and that for the last six months it had been given up altogether. It was ascertained that there had been no penetration of the male organ for eighteen months.

On admission there was seen a large tumour occupying nearly the whole of the abdomen, smooth, movable, slightly unsymmetrical, projecting a little more on the right than the left side. The whole surface of the tumour was dull on percussion; slight fluctuation. At the sides of and around the tumour, the surface was tympanitic on percussion. The mammæ presented no particular indication of pregnancy. On examining the vulva, it was found that the labia majora and minora were completely obliterated, and there remained dense white scar-tissue. In the centre of this was a depressed and slightly corrugated opening, barely sufficient to admit the little finger, and quite impervious to the index finger. A catheter was introduced into the bladder, and urine drawn off.

Mr. Maunder, unable to examine the uterus per vaginam, introduced his finger into the rectum, and felt that the uterus moved with the tumour. For this and other stated reasons he then expressed an opinion that the most probable condition was pregnancy, but that certainly the swelling was within the uterus. On listening just below the umbilicus the fœtal heart was plainly heard beating about 140 per minute. The diagnosis was thus conclusive.

On Nov. 8th, at about 8 P.M., the patient was taken in labour in the ward at 10 P.M.; the head could be felt in the vagina through the small opening. Seeing it was impossible that the head could pass, chloroform was given, and the house-surgeon, Mr. John Job (in the absence of the resident accoucheur), with the little finger in the opening, enlarged it by an incision in an upward direction through the scar-tissue, and downwards through the perinæum. It was then found that the sides of the entrance would not yield, and two more incisions were made, one on each side. Forceps were now applied, and the delivery effected in about five minutes. Child at full term and living.

The first point that strikes you is that this patient had no special object in deceiving us as to her condition. She had not previously borne a child, and therefore could not compare notes with her past and present state. Beyond the mechanical enlargement in the abdomen, the symptoms of pregnancy were comparatively negative. The condition of the mammæ did not help our diagnosis, and the swelling of the legs might be due to any mechanical obstacle pressing on the iliac veins. I have known a distended bladder cause such, and to be gone next morning when that viscus had been emptied. The pyriform shape of the swelling, its free mobility, and the whole being one with the uterus, appreciated per rectum, led me to express a decided opinion that the tumour, whatever its nature, was contained within the cavity of the uterus.

The abdominal cavity contains organs common to both sexes, but that of the female some peculiar to her. On being called, then, to determine the nature of an abdominal swelling in the latter, various viscera liable to become enlarged, both from disease and physiological change, as in pregnancy, will be passed rapidly in review before your mind. The first question that you should endeavour to determine is—Is the tumour connected with a pelvic organ, or what is more properly termed an abdominal organ, or is it independent of both, as in ascites? or is it adventitious, as in the instance of an hydatid cyst? You should then proceed to determine the presence or absence of the most common form of abdominal swelling, such as ascites, pregnancy, and ovarian tumour.

The next question for you to determine is whether the swelling be solid or fluid. Both will be dull on percussion, whilst one will fluctuate. The presence of gas you will of course recognise by tympanites. Having determined the existence of fluid, you ask, Is it circumscribed or not? and you will answer the question in the affirmative on finding dulness on percussion limited in all positions of the patient. Should this latter condition be present, then you at once eliminate ascites, because, as the fluid in this instance is only confined by the peritoneum, it gravitates in all positions of the patient, rendering the lowest parts dull on percussion, whilst the uppermost will be resonant from the presence of intestines containing gas and floating on the surface of the fluid. For example, when a patient thus affected lies on the left side, this will be dull, while the right will be resonant, and *vice versâ*.

We now wish to determine whether or not the tumour be connected with the pelvic organs, such as bladder, uterus, ovary. And there is one circumstance common to all three: as they enlarge and rise out of the pelvis, they approach the anterior abdominal wall and push aside other organs, especially the intestines; and thus one evidence that the tumour is pelvic in origin is that the lower regions of the abdomen are dull on percussion, while, on the contrary, if the tumour spring from above and be in connexion with the liver or spleen, &c., the upper regions are then dull on percussion.

The next step is to differentiate the three pelvic sources of tumour—bladder, uterus, and ovary. The finger in the vagina or rectum will appreciate the distended bladder or uterus, and the catheter will settle the question between these two.

Case of Distended Bladder.—To assist your diagnosis, never hesitate to use a catheter. Many years ago I came to the bedside of a patient who had been admitted with a contused shoulder. She drew my attention to a "swelling in her stomach," as she called it; and then exposed to view a decided tumour, unsymmetrical, inclining to the right side, and occupying the hypogastric and umbilical regions. It gave her no trouble, the history of it was indifferent, and she had just passed a good half pint of healthy urine. It was dull on percussion, and fluctuating. My mind reverted to ovarian dropsy; but, following my custom, a catheter was passed, several pints of urine were drawn off, and the

tumour disappeared. I suppose the unequal length of the ligaments will explain the unsymmetrical appearance mentioned. The pregnant uterus is pyriform in shape, and freely movable in the abdomen. Fluctuation can sometimes be detected, as in the above case; whilst, by the finger in the vagina, the shortened cervix can be felt lost in, and continuous with, a firm tumour covering in the roof of the vagina. Independently of physiological symptoms and other physical signs, I rely upon this to determine that the tumour is not ovarian.

But I must also mention a possible source of error as regards the bladder. Some years ago a man about twenty-two years of age was brought into the receiving-room, and was there seen by two senior colleagues, who attempted and failed to pass a catheter. The patient was the subject of retention of urine, with a well-marked hypogastric tumour. I was requested to take charge of the case. On examination per rectum, &c., all the symptoms of distended bladder existed. I punctured the fluctuating tumour per rectum, and drew off a large quantity of clear, limpid fluid. As the tumour was emptied, to my surprise, urine flowed freely per urethram. The patient ultimately died of peritonitis. Numerous hydatid cysts, which had caused this, were found scattered about the peritoneal cavity, while one large one, extra-peritoneal, and occupying the pelvis, proved to be the supposed distended bladder.

I shall say little about enlargements of the liver and spleen, as the diseases of these belong more especially to the physician; but two sources of error, as regards the stomach, are worthy of mention, which have come under my care.

Cystic Tumour of the Stomach.—A young woman, some eighteen years of age, was admitted under Dr. Sutton, and handed over to me as the subject of ovarian disease. The tumour filled the belly, was dull on percussion, and fluctuating everywhere, excepting in the loins, which were tympanitic. I proceeded to perform ovariotomy, and as the sac was emptied of its contents, and itself gradually withdrawn through the wound, its attachment led me up to the stomach, instead of downwards to the pelvis. The patient died, and proved to be the subject of several cysts connected with malignant disease of the wall of the stomach. In this case the absence of tympanites below the tumour, by reason of its size, rendered an accurate diagnosis impossible. I show you the stomach and the remnant of the cyst.

Distended Stomach.—Another case is that of a female about forty-five years of age, sent to me as being the subject of ovarian disease. In this instance a line of tympanites below the swelling settled that question in the negative at once. My house-surgeon, Mr. Vialls, took a cast of the abdomen during life, and I have it here. My opinion was that the swelling was a distended stomach, and so on post-mortem examination it proved to be, and consequent on obstructive disease of the pylorus. When the patient was sitting up the tumour was dull on percussion and fluctuating, when recumbent it was more or less tympanitic as the gases came to the surface. The size of the tumour varied in proportion to the vomiting. I am not aware that such a state of stomach has been elsewhere recorded.

SOME EXPERIENCE OF THE SPHYGMOGRAPH IN MEDICINE.

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(*Concluded from p. 276.*)

THE instances given are all well-marked examples of increased vascular tension, the arteries generally being affected, both large and small. There seem, however, to be numerous instances, judging from the tracings given by good observers, where the artery actually experimented on, the radial, and presumably others of the same size, were by no means contracted, but the reverse. In these tracings the rise is high, the apex sharp, the fall rather abrupt, the dicrotism well-marked, and the only morbid indication is a moderate rise in the earlier part of the descent, signifying retardation of the tidal wave.* This rise in a minor degree may be seen in the tracings of perfectly healthy youths, and I think, unless it is much exaggerated, stress should hardly be laid upon it as a morbid sign. The very function of the arterioles as regulators of the blood-flow requires that they should undergo considerable variations in calibre, and so long as they can dilate readily and the secondary wave in question disappears after exercise, there is probably no serious morbid change. At any rate some distinction should be made between such tracing as that obtained in Case 1 and those now alluded to. It may be said that increased contraction of the arteries in any part of the system will cause general increase of arterial tension, and this may be true if by tension be meant increase of pressure on the inner surface of the arterial tubes. To me, however, there seems to be a very material difference between increased pressure of the blood and increased tonic contraction of the arterial muscles. The latter may produce the former, but the existence of the former by no means implies that of the latter.

It is tolerably certain, I think, that contraction of arteries will produce different effects according to its situation. Thus a narrowing in the third part of the subclavian will produce such a tracing as is represented in T 2, while T represents

the tracing taken in a posture which left the artery free. The man had previously been lying a good deal towards his left side, so that the clavicle was depressed, and flattened the artery to some extent against the first rib. As soon as his position was altered, the tracing became what it had been on former occasions. S is the tracing of a man nearly

seventy years old, but active and vigorous both with limbs and brain. His radial is evidently inelastic, but his arterioles in the brain and elsewhere are certainly not obstructed, as far as one can judge from the functional activity of his organs. R is the trace of a male, aged fifty-

two, with gouty tendency, but no other apparent disorder. The rise is high, implying an uncontracted radial; the tidal wave is delayed, implying an obstruction in the arterioles. Dr. Galabin's Fig 7, from a case of granular kidney with cardiac hypertrophy, is a marked instance of the same kind. Morbid contraction of the arterioles is, I imagine, a much graver matter than rigidity of the larger arteries, if the latter exist alone. That in some states the peripheral obstruction may be due to abnormal action between the blood and tissues, and not to arterial constriction, is probably true, but I think the part played by toxæmia is hardly so great as Dr. Mahomed supposes. In not a few such states—e.g., in typhus and typhoid—the pulse shows an absence of high tension.

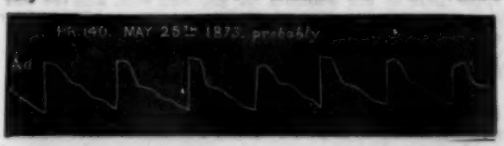
The reality of such a condition as "arterio-capillary fibrosis" designates seems to me decidedly affirmed by the above histories, though I feel they are very incomplete. I do not think it can be said that the change was merely senile calcification, without any reference to renal disease; for in Case 4 the urine was albuminous, in Case 2 the father had died with dropsy (perhaps the result of asthma), and a brother had morbus Brightii, in Case 1 all the family were gouty, in Case 5 the patient was the brother of Case 4, and Case 8, also a brother, had died from renal degeneration. It certainly seems as if there was a condition of arterial morbid change, allied to that of senility, which has a notable tendency to be associated with renal degeneration,

* *Vide* Dr. Galabin's pamphlet, Fig. 5.

but yet may exist quite independently, as Gull and Sutton maintain.

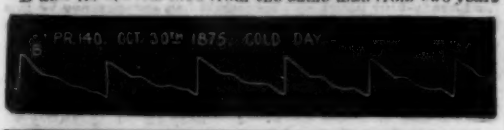
In the tracings marked A, Aa, B, Bb, Ca, Cb, Cc, Da, Db, Dc, the question is raised as to the possibility of improving the condition of arteries which have begun to deteriorat A is taken from the radial of a male aged fifty three, n

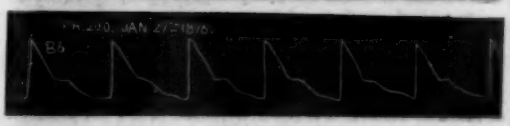
is evidently flat-topped enough to justify some grave suspicions as to arterial degeneration being in progress. His habits had been tolerably active, and he had always been very temperate in the matter of alcohol. Aa from the same



man, probably eighteen months later, is a tracing of the same kind; it is given to show that the former was not a mere accident.

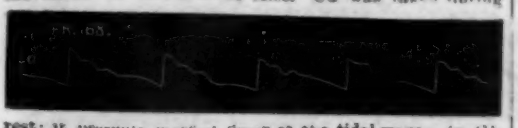
B and Bb are tracings from the same man from two years



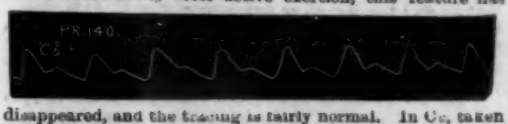


and a half to four years later, when the c[illegible] have been reasonably expected to have got worse. On the contrary, they show a great improvement. Two pedestrian tours had been made in the interval in the Swiss mountains, and, on the last occasion especially, a good deal of "big work" had been performed, much more than in previous years. His heart had acted comfortably during the whole time, and its sounds, as noted by a competent observer, were found normal at the close of a sixteen hours' passage of the Adler. Certainly this man of fifty-seven was in better condition in this tour than he had been in three former ones, had done much more work, and borne the fatigue better, and his tracing does not belie the conclusion that he was all the better for the exertion. It is not affirmed that the exercise was the sole cause of the improvement, but it was most apparent, and cannot be left out of count.

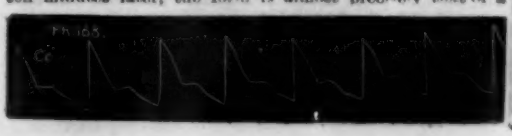
The three next tracings from the same individual exhibit the immediate effect of exercise. Ca was taken during



rest; it presents marked delay of the tidal wave. In Cb, taken immediately after active exertion, this feature has



disappeared, and the tracing is fairly normal. In Cc, taken ten minutes later, the form is almost precisely that of a



healthy soft pulse. D is another instance of the same kind. The tracings were taken from the radial of a male aged fifty two, subject to attacks of articular gout, but free from

any decided sign of renal degeneration." He does not usually take any active exercise. Da was taken while he was at rest, and shows very marked indications of excessive arterial

tension. Db was taken about an hour later, immediately after smart exercise—walking and running; it is nearly normal. Dc was taken twenty minutes later, and manifests

some indications of recurrence of abnormal tension. In both these instances the effect of exercise on the tracing for the time seems to be unmistakably beneficial; and it appears reasonable to conclude that frequent repetition of the exercise will tend to render the effect more permanent.

I am far from wishing to lay too much stress on these observations, but the latter particularly seem to me of some value. Our stock of remedies for the removal of undue arterial tension occurring as a chronic change is certainly very small, and any suggestion of a means that may prove helpful to us and our patients is worth a hearing. I am well acquainted with what has been written by Sir William Jenner as to the ill-effects of active exertion in advanced life.* "Many a man," he says, "whose wind was merely touched has become dropsical &c. by attempts to renovate himself by endeavours to climb, hunt, and shoot as he did before his 'wind' began to go. Old age has commenced on his chest; he is but between fifty and sixty, and he won't admit the existence of it. He strives against its inevitable consequences, and dies from the effect of the struggle years before he would have done had he shunned the contest." Sir William is speaking here of the emphysematous, and I have no intention whatever of discrediting his counsel as applied to them. But for a different class of subjects I think another view may be taken with much show of reason. There are many men, I am sure, between fifty and sixty whose arteries are getting rigid, and their kidneys deteriorating, who drive about in broughams all day, or breathe the close atmosphere of courts and offices, working their brains hard and their bodies little, and repairing their nerve exhaustion with generous food and alcohol when the day's toil is over. Their vacations, when they take any, are spent in loitering about at seaside resorts, or touring in Scotland or on the continent, visiting cities and spas, and perhaps the tail of a glacier, probably never spending a whole day in the fresh air, or giving their muscles any serious work to do. Now I suspect there are not a few of these who might do much better, and, by cultivating more active habits both during their work and their play periods, might add materially to their term of life. An eminent member of our craft, hard upon seventy, takes his morning walk and run every day, and attributes his excellent health mainly to this practice. Surely there can be no doubt that abandonment of active exercise, entailing necessarily lessened oxygenation of the blood and disuse of the working tissues, must accelerate the inevitable tendency to decay which belongs to later life, especially when food and alcohol are taken freely. Cholagogues and aperients are all very well as purifiers of the blood and lessoners of vascular tension, when no better means may be had; but if the heart and lungs are tolerably sound—which, is of course essential,—

* Vide Reynolds's System of Medicine, vol. iii., p. 808.

much more, I believe, may be accomplished by a daily *breather*, supplemented by an annual ramble, when whole days are spent in a pure open air. If I were bold enough to be a prophet, I should point to a period when the elder folk, instead of waiting till they have had a stroke of apoplexy or a touch of paralysis, or are laid up with arterio-capillary fibrosis or morbus Brightii, and then hurriedly summoning a physician to do impossibilities, will seek his advice betimes, asking him to supervise their vital functions, regulate their mode of life, and teach them to stay the morbid changes which they know may be silently progressing. For the due estimation of these the sphygmograph, in skilled hands, as those of Galabin or Mahomed, is, I think, indispensable.

Green-street, W.

TWO CASES OF AORTIC ANEURISM, WITH INCREASED SECRETION OF URINE.

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SINCE Bernard observed that an increased flow of urine, free from sugar, follows puncture of the floor of the fourth ventricle at a spot slightly higher than where the "diabetic puncture" is practised, cases have been recorded pathologically illustrating the experimental fact. An increased flow of urine also follows the experimental irritation, in animals, of the pneumogastric nerve; and in the two cases I now relate it seems highly probable that the increased secretion of urine may be accounted for by the irritation caused by the pressure on the left pneumogastric nerve by an aneurismal swelling of the transverse aorta.

CASE 1.—Joshua W——, aged forty-seven, a sailor, was admitted into the Seamen's Hospital, under my care, on the 5th of August, 1875. He states that for nearly four years he has been suffering occasionally from severe paroxysmal pain over the cardiac region. During the last few months, however, the attacks have become more severe and frequent, so that in his last voyage from New York he was quite incapacitated from duty. On arriving in England in May he came at once to the Seamen's Hospital; but, leaving shortly afterwards, he went to Guy's Hospital, where he was under treatment two months. After his discharge from that hospital in July he went down to Somersetshire; but, the pain still continuing, he came back to town, and was readmitted into the Seamen's Hospital on the 5th of August. The following note was taken shortly after his readmission. He is a tall, well-built man, looking rather old for his age, but otherwise healthy in appearance. Had syphilis when he was seventeen years of age. He complains of attacks of intense agonising pain, seizing him suddenly and frequently, occurring over the cardiac region. The pain is of a peculiar sickening character, and makes him feel faint. No aching or gnawing pain between the paroxysms. No bruit can be heard over the cardiac region; there is slight impulse over the base, and pulsation is marked above the left clavicle and in the inter-clavicular notch. The left radial pulse is small and weaker than the right.

After he had been in the hospital a few weeks he requested to have an extra allowance of milk, as he felt thirsty. Inquiry was made with respect to the quantity of urine passed daily, and the patient stated that since he suffered from the pain in the chest he has passed much larger quantities of urine than formerly; he is positive that the pain in the chest, and the increased flow of urine, appeared about the same time. Directions were given to have the urine measured, and it was then found the first week this was done that the daily average was 116 oz., the maximum quantity being 160 oz., the minimum 106 oz.; weight of patient, 157 lb., or 11¼ stone. Since September the urine has been measured daily, and the quantity passed, except on three consecutive days in September, has always been considerably above the normal, the average for the last two months, December and January, being respectively 109 and 99 oz. The specific gravity has ranged from 1009 to 1013, corresponding closely with the quantity of urine passed. No sugar or albumen has been observed at any time. Dr. Law, the house-physician, has kindly attended to the daily measurement of the urine, and on several occasions made quantitative estimation of the urea and phosphoric acid. These have never been found in anything like excessive quantities. The following gives the amounts of urea and phosphoric acid respectively, contained in the twenty-four hours' urine, on the different occasions they have been estimated:—

Urea.	*Phosphoric Acid.*
45·9 grammes.	2·4 grammes.
33 7 ,,	2 3 ,,
41 2 ,,	2 3 ,,
32 4 ,,	

Feb. 5th.—The aneurismal swelling has increased but slowly in size; the pulsation above the left clavicle, however, is stronger, and there is a decided prominence over the upper part of the sternum on the left side, and the left radial pulse is now nearly obliterated. He has, however, quite lost the anginal pain. There is slight hoarseness of voice, and the left side of the face is swollen and œdematous.

CASE 2.—W. H——, aged fifty-six, a sailor, admitted into the Seamen's Hospital, January 26th, suffering from aortic aneurism. There is pulsation felt above left clavicle, and in the inter-clavicular space; aortic second sound accentuated over pulsating area and vessels of the neck; left radial pulse nearly obliterated; some difficulty in swallowing. Weight of patient 128 lb., or 8¼ stone. The urine collected for twenty-four hours and measured has given, since he has been in hospital, a daily average of 73 oz. The patient does not complain of thirst, nor till his attention was called to it was aware that he was passing an undue quantity of urine. The following note, made by Dr. Law, the house-physician, gives the proportion of water, solids, urea, and phosphoric acid for one of these days:—February 15th: Quantity of urine passed, 2400 c.c. (about 83 oz.); specific gravity, 1014; urea, 30 grammes; phosphoric acid, 1 6 grammes.

Both cases are still under treatment at the hospital.

Although we have not been able to verify, by post-mortem examination, our supposition that the increased secretion of urine in both cases is due to irritation of the left pneumogastric nerve from the pressure of the aneurismal swelling, still there are many points which make that supposition highly probable. It may be suggested that the polyuria in both cases might be due to some other cause, still it would be a somewhat remarkable coincidence that each should be suffering from aneurism in exactly the same locality. Then there is the fact that experimental irritation of the vagus in animals produces polyuria, and in both these cases we find the aneurism situated in that portion of the transverse aorta which is crossed anteriorly by the left pneumogastric. And, lastly, in Case 1 there is an evident connexion in point of time, observed by the patient himself, with respect to the pain in the chest and the increase in the flow of urine. In both cases it would, however, have been easy to overlook this symptom, for though the increased secretion of urine in both cases is marked (making allowance for the difference of weight in the two patients, it is just double in each case what is passed under normal conditions), still it was not sufficiently urgent for either of the patients to call our attention to it. In Case 1 the patient had been in the hospital some weeks before we were aware of the fact, and had the application for more milk been granted without inquiring the reason for the demand, it is probable we should never have suspected it. In the second case we were on the look out, but the patient was quite ignorant that he was passing more urine than usual. It is, therefore, not improbable that future observation may prove that aneurisms in this part of the aorta, from their proximity to the left vagus, do cause from the irritation they produce an increase in the urinary flow.

I am not aware of any exactly similar case, but in 1863 Professor Haughton published in the *Dublin Quarterly Journal* one which seems analogous. This case has been aptly cited by Dr. Dickinson* as proving that hydruria may take its rise in irritation or compression, by means of an abdominal tumour, of nerves leading to the kidney. It was the case of a woman who died with characteristic symptoms

* Dickinson's Diseases of the Kidney and Urinary Derangements, part i., Diabetes, p. 190. London, 1875.

of diabetes insipidus, together with constipation and abdominal swelling, all of which had been noticed some years; it was supposed that the dilated colon pressed injuriously on the abdominal nerves, and thus set up the hydruria.

Queen Anne-street.

ON THE

LOCAL USE OF COLD IN ABDOMINAL INFLAMMATIONS.*

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THERE are few acute diseases with which we have to deal that cause us more anxiety during their continuance than the inflammatory affections of the abdomen. Though by no means common, they are frequently acute, and sudden in their onset; and their course, whether for weal or woe, is often short, sharp, and decisive. It is with this class of abdominal affections exclusively that I wish now to deal, and the few observations I desire to make will have reference only to these. They comprise peritonitis, enteritis, and the congestive inflammatory condition which follows upon obstruction of the bowels, especially under the use of purgatives. Of the milder forms of peritonitis, such as the strumous and the tubercular, or the adhesive form, which is generally local and is due to the neighbourhood of some diseased viscus, I shall not now speak. I have no experience to bring before you of the local use of cold in their treatment, and therefore, although it may occasionally be useful in such conditions, my present observations do not apply to these.

The title of this paper is, "The Local use of Cold in Abdominal Inflammations"; and I venture to bring the subject before you in connexion with some cases in which I have recently made use of this agent, with a very considerable amount of benefit to the respective patients. Of course I am well aware that such a use of cold is not only not new, but has been recommended with a varying degree of emphasis by various writers. But whatever the recommendations of our text-books, this I do say, that a consulting experience of now many years tells me that the almost universal practice of this district in the case of peritonitis or enteritis is to apply warm rather than cold applications to the abdomen; and that if I am called to see a case of either of these diseases, it almost (if not quite) never happens that the influence of cold locally to the abdomen has been brought into practical requisition.

I wish it to be distinctly understood that I am not now advocating the substitution of cold for warm applications to the abdomen in every case of inflammation,—I have not sufficient data to go upon to justify this; but I do desire to call, or perhaps I ought to say recall, the attention of this Society to the practical value, at least in some cases, of such practice; and the cases which I now briefly relate to you from my clinical experience will, I trust, suffice to induce a trial by you of this rather neglected agent in apparently suitable circumstances.

Before doing so, I will, as shortly as possible, place before you the present views of authors as to the proper treatment of these inflammatory abdominal affections; and, to save time, will only quote from three or four of those most commonly accepted as the guides of the profession at the present time.

To begin with Sir Thomas Watson, whose well-weighed words always command attention and deference. Speaking of simple acute peritonitis, he says the great remedies are rest, bloodletting, and opium. He adds: "After the leeches have fallen off, a light poultice may be laid over the abdomen; or it may be assiduously fomented with flannels wrung out of hot water, ... and these are generally found to afford great comfort to the feelings of the patient. *Cold* applications have been recommended by some practitioners of high authority," as, for example, Dr. Sutton and Dr. Abercrombie; but he goes on to say, "I should think this a more precarious plan than the opposite, and I have always observed so much relief to be given by warm epithems that I have never had the inclination nor the courage to employ cold." Of inflammation of the bowels he says that it requires very much the same kind of treatment as peritonitis.

Dr. Wardell, writing in Dr. Russell Reynolds's "System of Medicine," article Peritonitis, after quoting Sutton, Abercrombie, and Smoler of Prague, as having recommended cold compresses to the abdomen, and even injections of iced water, says: "Not having any personal experience of cold appliances, I shall not do more than mention a remedy to the success or otherwise of which I can bear no testimony. It would, to myself at least, seem of doubtful utility in many cases, and one involving great risk in others; and I prefer what I believe to be equally efficacious, and certainly safer—namely, warm fomentations."

Dr. Bristowe (art. Enteritis, "Reynolds's System") also recommends, after the application of leeches, "warm but light applications to the surface of the belly," which, he says, "generally soothe, even if they produce no further beneficial effect." And of the vomiting which ensues when the stomach and bowels become greatly distended, he says, if to this "over-distension there is no other channel of relief, medicine ceases to have any power over it."

Dr. Tanner advises for peritonitis "sedative fomentations to be properly and assiduously applied," either alone, or the abdomen having been previously covered with extracts of poppy and belladonna. He does not allude to the use of cold in the treatment either of peritonitis or enteritis.

Dr. Aitken says, leech, give opium, and apply warm fomentations, in peritonitis; and he recommends pretty much the same treatment in enteritis.

Dr. Copland says, if cold is applied to the abdomen at all, it should be in the early stage and in the acute form of peritonitis; but he prefers the external use of turpentine, and of fomentations.

Niemeyer speaks favourably of local bloodletting in peritonitis, and then says: "The employment of cold acts in the same way, and perhaps it has even more effect on the inflammation itself. If the patient can bear it—which, unfortunately, is not always the case,—we may cover the entire abdomen with cold compresses, and renew them every ten minutes." And lastly,

Dr. Flint, of New York, says: "Warm fomentations to the abdomen, if grateful to the patient, are useful.....Cold applications are recommended, after trial, by Grisolle and Alison. I cannot speak of their utility from observation, but I should be willing to trust to the feelings of the patient in deciding between warm or cold applications."

From these quotations it will be seen that though the local use of cold is mentioned by the majority of modern authors, yet that, practically, it has been ignored or rejected by them in favour of warm fomentations or poultices. That these latter often fail to give any marked or sufficient relief must be in the experience of all of us. That the use of cold instead of warmth, locally, will sometimes give marked relief, the following cases, which have all occurred to me within the last two years, will, I think, show.

CASE 1.—Mr. A——, suffering from enteritis of four days' duration, apparently due to an excessive meal of white sprats. The symptoms were abdominal pain and commencing distension, frequent sickness, and high pulse and temperature. Ice in bladders was ordered to be applied to the abdomen as was found agreeable. Perfect rest of body was strongly enjoined, abstinence from much nutriment recommended, and the opium pills he was taking advised to be continued. He at once experienced relief; of his own accord reapplied the ice-bladders from time to time; in two days was greatly relieved; and from that time convalesced.

CASE 2.—Mrs. B——, suffering from severe and acute peritonitis of four days' standing, attributed to cold. She had been freely leeched, with relief to the pain; but the abdomen was much distended, the sickness was urgent, she was thirsty and much flushed, the pulse was 130, and the temperature 102°. Here, again, the ice-bags were freely applied to the abdomen, whilst opium was continued at short intervals. She liked the effect of the cold so well that she voluntarily continued its use; and soon her symptoms began to improve, and she eventually got quite well.

CASE 3.—Miss C——, suffering from acute abdominal congestion due to obstruction of the bowels of many days'

* Paper read before the Norwich Medico-Chirurgical Society.

standing. Here the abdominal distension was great, the sickness frequent, and the tenderness considerable. In addition to opium at intervals, ice-bags were now substituted for warm poultices, and the relief given by them was very decided. They were continued for many days at intervals, and under their use the sickness and the abdominal distension markedly subsided. The patient was ultimately relieved by operation; but there could be no doubt of the palliative efficacy of the cold.

CASE 4.—Mr. D——, suffering also from obstruction of the bowels. The symptoms were pain, sickness, constipation, and paroxysmal torminous convolutions of the bowels. Ice was freely applied in the same manner as before, and the relief was marked and continuous. This patient eventually recovered from the obstruction, and the bowels acted again.

These cases are, I think, sufficient to show that, in the local use of cold in abdominal inflammation we have a remedy of great value in certain cases; and that though, of course, it is not applicable to all, and probably requires to be used tentatively in the great majority, yet that it is, when properly applied, both safe and reliable, and by no means to be regarded as precarious or as requiring "courage" for its application.

The forms of abdominal inflammation or congestion to which it is most suited are doubtless the more sthenic ones, in their early or middle stages, before collapse begins to show itself, and where accompanying circumstances are not of a depressing nature. But it has seemed to me that the patient is generally the best judge of its suitability, and that it may safely be left to his or her feelings to decide as to the propriety of its continuance. In some cases the influence exerted is certainly most grateful to the feelings.

Niemeyer and others advise that the cold should be applied to the abdomen by means of cold water compresses or cloths wetted in iced water. The plan of applying the cold by means of one or two bladders half filled with broken ice, which can be shifted from place to place, has seemed to me to be more satisfactory. I have usually directed that they should be removed as soon as they cease to be agreeable, generally in twenty or thirty minutes, and reapplied after an interval of an hour or two. I wish to say that the first case in which I saw the cold so applied was one in which its local use was advised by Sir W. Gull, and from him I derived my knowledge of this mode of its application. The injection of iced water into the rectum has been suggested, but of this I have no experience.

The *modus operandi* is, no doubt, to abstract heat, to benumb exalted sensibility, and to contract the dilated and semi-paralysed vessels. And its especial effects have seemed to be, to diminish abdominal distension, to control the volvulous writhings of the bowels, and thereby to relieve both pain and tenderness. I can only add that very recent experience leads me to think that we have of late unduly neglected a valuable therapeutical agent, and I have therefore ventured to bring the subject before the notice of our Society to-day.

ON A RECENT CASE OF

LIGATURE OF THE EXTERNAL ILIAC ARTERY BY AN ANTISEPTIC MATERIAL, FOR THE CURE OF AN UNUSUAL NUMBER OF ANEURISMS.

BY OLIVER PEMBERTON, F.R.C.S. ED.,
PROFESSOR OF SURGERY IN QUEEN'S COLLEGE, BIRMINGHAM.

IN the number of THE LANCET for Feb. 5th a brief note recorded the fact that nine days previously I had secured the external iliac artery in the case of a patient forty-seven years of age, in whom were present in the same limb three considerable aneurismal tumours—namely, one beneath Poupart's ligament, one at the apex of Scarpa's space, and one in the popliteal region. Beyond this it was noticed that a special animal ligature was employed, and that, in reference to the question of the renewal of the circulation in the limb, the collateral development, before it could succeed, must overcome no less than four absolute barriers established in the main trunk—namely, at the seat of ligature and at the situations of the three solid aneurisms respectively.

The lapse of three weeks since the performance of the operation enables me to speak with confidence on one or two points just now of great importance, more especially as regards the value of the antiseptic method of ligaturing an artery in its continuity.

The wound for the application of the ligature is soundly healed, having for the first fourteen days been thoroughly antiseptic, and for the subsequent ones being dressed with a resin ointment to remedy some adjacent excoriation. The aneurismal tumours are firm and contracting in dimensions. Gangrene ends by a well-defined line at the middle of the leg, the dead part being dry, absolutely without putrefaction, under an antiseptic dressing of cotton-wool prepared by saturation in a solution of carbolic acid in ether. The patient is well, and beyond suffering pain near the line of demarcation, is undisturbed by the death of his foot.

And now I come to the centre point of interest in this case, which is, I think, complete, and which circumstance alone is my reason for referring to it at this period, ere, indeed, the general result can be completely appreciated and recorded. That centre point is the having been able to tie a diseased artery so as to escape, by the mode of operation, the risk of secondary hæmorrhage—a risk more than ordinarily threatening in the face of the existence of such extensive disease in the same arterial trunk.

I asked myself this question, Will the compressing power of the animal ligature I am about to use last sufficiently long to establish an adequate coagulum? If it will, I shall cure my patient's aneurisms. If not, I dare not tie the artery close to an aneurismal sac with a ligature that has to cut its way through the vessel.

I venture to think that a satisfactory answer is afforded by what has happened in this case to the several misgivings alluded to by Mr. Maunder*—amongst others, as to the conduct of such a ligature as the one I employed. It will be for Professor Lister to say of what material the ligature he gave me was made up. Such a ligature as I used I feel assured will hold in any number of cases in which it may be tried; round, smooth, not thick, it was the perfection of a material, as it seemed to me, to make a firm and unyielding knot.

I have but to record, that with it I tied a large and probably diseased artery close to an aneurismal sac; that I tied it so as to be satisfied the outer coat was not severed, whilst I should think the internal ones were; that all suppuration was prevented about the tied artery by antiseptic dressing; that the wound was soundly healed at the end of three weeks, and that pulsation had ceased in the aneurisms from the moment of the operation being accomplished.

Birmingham.

A Mirror
OF
HOSPITAL PRACTICE,
BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum, tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv. Proœmium.

MIDDLESEX HOSPITAL.

CHRONIC ULCERS OF BOTH LEGS; DRY GANGRENE OF BOTH LEGS, GRADUAL IN RIGHT, SUDDEN IN LEFT; AUTOPSY.

(Under the care of Mr. HULKE.)

IN the "Mirror" of December 18th, 1875, we published an account of a rare and interesting case of dry gangrene of both legs in a man who was at that time a patient in the above-mentioned hospital. Shortly after that report appeared Mr. Hulke amputated both legs, in order to get rid of the decaying and putrid tissue which was evidently poisoning the patient and causing profuse and obstinate

* See THE LANCET of Feb. 12th.

diarrhœa and vomiting. The patient did not, however, rally after the operation, and the gangrene continued to spread in the left leg, and nearly reached the knee. Death occurred four days after the operation. It is interesting to note that the post-mortem appearances confirmed the ingenious explanation that Mr. Hulke had previously given of the mode of origin of the disease. The oldest clots were in the right tibial arteries, and these vessels were most shrunken. Clotting had plainly ascended from these arteries into the femoral, and then through the external and common iliacs as far as the bifurcation of the aorta. At this point an embolon had evidently been washed off by the blood-current and carried into the left external iliac artery. Indeed, the clot in the left side had not the appearance of having grown upwards from below, but seemed rather to have formed upon an embolon injected from above.

For the subjoined notes of the progress of the case we are indebted to Mr. G. Sherman Bigg.

On Dec. 22nd there was evidently some extension upwards of the gangrene in the right leg. The first and second toes were more shriveled. Both legs were dusted with powdered charcoal. The gangrene continued to spread until the 29th, when it was observed that not only had it become stationary, but that the left foot was not quite so cold. By Jan. 10th there was a very distinct line of demarcation in the right leg, which was still more shriveled; the left leg seemed to be unaltered. About this time the patient sank into a drowsy asthenic condition, notwithstanding a diminution in the quantity of the opium taken daily. Next day (Jan. 11th) diarrhœa set in with pain in the abdomen. From this time the unfortunate patient gradually deteriorated. The gangrene rapidly spread in the left leg, obstinate vomiting occurred, and the profuse watery diarrhœa continued.

On Jan. 20th it was found that the poor man was quickly losing ground, and was becoming daily weaker and weaker. The gangrene in the left leg was unlimited, although the line of demarcation was very pronounced in the right leg. Mr. Hulke, believing that the diarrhœa was due to and kept up by the absorption of putrid matter, determined to sever the decaying tissue. He accordingly made an oblique incision from within outwards, in an upward direction, through the dead tissues and sawed through the bones, and thus removed the right foot and the lower half of the leg. The stump was dressed with oakum. The gangrene of the left leg was more moist, but continued to spread at the upper part until it nearly reached the knee.

As the diarrhœa had not abated, and the temperature was rising, Mr. Hulke next day removed the left leg by a transverse incision below the upper limit of the gangrene, and incisions were made into the gangrenous portion which remained, and exit given to the putrid matters. Both stumps were dressed with balsam of Peru and oakum. The patient did not rally. The thighs gradually became cold, the diarrhœa continued, the strength declined, and the temperature slowly sank. On Jan. 25th, at 12.30 P.M., he died, his temperature immediately before death being 94·2°.

Post-mortem examination made by DR. COUPLAND *on Jan. 26th, twenty-five hours after death.*—Body well-nourished and muscular. Rigor mortis fairly well-marked. Both stumps were gangrenous. The soft parts beneath the thickened and desiccated tissues on the surface are in a state of deliquescence, while the ends of the bones exposed at the truncated extremities of the limbs are dry and blackened. The condition of the main arteries supplying each limb was then sought for. The viscera having been removed from the thoracic and abdominal cavities, the aorta and its iliac branches, with their continuations in the limbs, were followed out. Before this dissection was undertaken, the deep epigastric arteries on each side were traced down to their points of origin. On each side these vessels were pervious. Much difficulty was experienced in the dissection of the arterial trunks in the thighs and legs, owing to their firm adhesion to the surrounding connective tissue and to their accompanying veins, a difficulty which was increased as the leg was reached. There appeared to be about the same amount of periarterial thickening on the two sides, and in each groin the femoral chain of lymphatic glands was enlarged and vascular. The dissection was completed by cutting short the tibial arteries near to their origins, and the vessels thus detached were removed from the body. They were then carefully slit up, when the following conditions were noted:—The lining membrane of the thoracic aorta was slightly blood-stained; quite free from atheroma. It contained three small masses of decolourised and disintegrating clot, each about the size of a hazel-nut, and lying free within the vessel. Evidently these masses had been detached from the main plug in the abdominal aorta, and probably the detachment took place after death. Except for this, this portion of the aorta was empty. The upper part of the abdominal aorta was also empty, but immediately below the point of origin of the renal arteries the vessel was plugged by a soft clot, similar to those in the thorax, and, like them, free from adhesion to the lining membrane. Below this, for the distance of one inch and a half, the vessel contained a small quantity of semi-fluid opaque material. This was succeeded by a plug firmly adherent to the lining membrane, which was closely applied around it. The length of this clot to the bifurcation of the aorta, where it became continuous with similar clots in each iliac artery, was 2 in.; above it was rather abruptly defined; externally it was of a brownish tint; internally softened. The inferior mesenteric artery springing from this portion of the aorta was also occluded, as were the lumbar branches. It was noticed that the two lumbar arteries next above those which were thus rendered impervious were about twice the size of the others. On the *right* side the common iliac artery and its branches were completely filled by firmly-adherent fleshy clot of the same brown tint in its outer layers, softened down and paler in the centre. In the external iliac and superficial femoral, just opposite to the point of origin of the pervious deep epigastric branch, there occurred a small amount of soft black clot, evidently of recent formation. This formed a thin coating to the firmer coagulum for a distance of about one inch on either side of the orifice of the artery. The rest of the femoral (superficial and deep) trunks, the popliteal and tibial arteries, were completely plugged by a firm fleshy clot. The last-named vessels were much dwindled in size, being reduced almost to the condition of impervious cords. However, it was not difficult to dissect off the lining membrane of the shrunken vessel from the contracted clot. On the left side there was almost a parallel condition in the vessels of the upper part of the limb to that on the right side. In consistency, however, the clot was firmer, and was not softened in the centre. Further, in the lower part of the superficial femoral the clot gradually tapered off to a fine black, thread-like process; and for a distance of about four inches the vessel contained only fluid blood. Its lining membrane was transversely corrugated and deeply blood-stained. The rest of the vessels (firm part of popliteal and the two tibial trunks) were occluded by tolerably firm and slightly adherent semi-decolourised clot rounded off above. The arteries were not atheromatous. The liver and kidneys were congested and indurated, the lungs adherent, emphysematous. Heart contained recent congula; valves and wall healthy.

SEAMEN'S HOSPITAL, GREENWICH.

A PENETRATING WOUND EXTENDING FROM BACK OF THIGH THROUGH ISCHIO-RECTAL FOSSA INTO THE ABDOMINAL CAVITY; PERFORATION OF ILEUM.

(Under the care of Mr. JOHNSON SMITH.)

THE following case resembles in many respects that recorded from the Liverpool Royal Infirmary, in the "Mirror," at p. 243.

John W——, aged thirty-five, an engineer, whilst working at the Greenwich pumping-station for sewerage, on the morning of Feb. 1st, 1876, slipped from the top of a short iron ladder on which he was standing, and as he fell forced the ladder from beneath him. This ladder was about three feet in length, and its two lateral upright supports were thin bars of iron, each pointed at its upper end, and projecting about a foot beyond the upper transverse bar or step. One of the lateral rods, as the patient fell backwards, was forced into the back of his left thigh, and passed upwards into the soft parts for almost the whole extent of its free upper portion. He extricated himself without assistance, and walked over a distance of about twenty feet, when,

in consequence of faintness and much loss of blood, he was obliged to rest. The profuse bleeding was stopped by a handkerchief bound tightly around the limb over the wound, and the man was at once removed to this hospital.

At the time of his admission the patient, a muscular man, was very pallid, cold, and almost pulseless. The clothing about the left lower extremity was much stained by blood. After removal of the handkerchief which had been placed around the upper part of the limb, a round wound was found on the posterior surface of the thigh, about three inches below and in a vertical line with the tuberosity of the ischium. The skin at the upper margin of this wound was jagged, and detached from its subjacent soft parts. The forefinger could just be introduced into this orifice, and be then passed without meeting any obstruction for its whole length in a direction upwards, and to the inner side of the tuberosity of the ischium. There was some oozing of blood from the wound, but this soon ceased spontaneously after the patient had been put to bed. There was no bleeding from the rectum, and, shortly after admission, a small quantity of clear urine was drawn off from the bladder. There was no impairment either of sensation or of mobility in the left lower limb. About half an hour after admission, the patient vomited and commenced to complain of a burning pain in the lower part of the abdomen. In the course of the day this pain increased in intensity, and spread gradually upwards over the whole of the abdominal region. Vomiting was frequent, and the patient was unable to retain any kind of food or stimulant. The matter brought up consisted at first of half-digested food mixed with bile, and subsequently of a brown and very fetid fluid. The man remained cold and pallid. He rested on his back, with his lower limbs slightly flexed, and seemed indisposed to make the slightest movement. There was no distension of the abdomen, but much tenderness, and the recti muscles were hard and contracted. A subcutaneous injection of one-third of a grain of hydrochlorate of morphia was made every three hours.

No very marked change, save for the worse, was observed in the subsequent course of this case. After each injection he slept soundly for about three-quarters of an hour, but at other times he suffered much from pain in the abdomen. The vomiting was profuse and frequent. The surface of the body remained cold and pale, and the pulse small and weak. On the morning of Feb. 3rd the pain in the abdomen was not quite so severe, and the man was able to lie on his left side. He still continued to vomit large quantities of brown, stercoraceous fluid. There was obstinate constipation. At 9.30 P.M. he became restless and delirious, and at 11.40 P.M. death took place.

Post-mortem examination, Feb. 6th.—The abdominal cavity having been opened, the small intestines were found distended, of a dark-red colour, and matted together by soft blood-stained exudation. About an ounce of thick and deep-red fluid was found in the recto-vesical pouch. The omentum was swollen, granular, and much injected. At a distance of thirteen inches from the cæcum the small intestine was surrounded by a thick continuous layer of soft and pale fibrinous exudation, which layer extended upwards along the intestine for about six inches. About midway between its inferior and superior limits it was very abundant and mixed with a small quantity of fæcal fluid. At a corresponding part of the intestinal wall two perforations were found, both extending through the whole thickness of the wall, and both circular, with slightly jagged margins. One orifice was a little smaller than a threepenny-piece, the other a mere puncture. The larger wound was in the anterior surface of the intestine, and the smaller wound over this and between it and the attachment of the mesentery. This part of the intestine was placed near an oval transverse wound in the pelvic portion of the peritoneum, about two inches below and a little to the right of the upper end of the right sacro-iliac articulation. Through this wound the little-finger could be passed for its whole length downwards and over to the left side. A large elastic catheter introduced into the wound at the back of the left thigh could be passed upwards without meeting any obstruction as far as and through the wound found at the back of the pelvis, its course being at first upwards and inwards to the inner side of the ischial tuberosity, then backwards, and again upwards and over to the right side between the rectum and sacrum. No wound was found on the inner surface of the rectum.

LIVERPOOL ROYAL INFIRMARY.

IMPERFORATE ANUS IN A CHILD THIRTY-THREE DAYS OLD; OPERATION; RECOVERY.

(Under the care of Mr. REGINALD HARRISON.)

ON Tuesday, the 8th inst., Mr. Harrison operated on a child for imperforate anus under the following unusual circumstances:—The patient was a well-nourished female child, aged thirty-three days, and was born with an imperforate anus. For this, shortly after birth, a puncture had been made by the patient's medical attendant in the position of the anus, but without any effect. The child had been fed upon the breast, and, with the exception of vomiting occasionally, appeared to suffer no inconvenience. Within the last few days the vomiting had been incessant, and of a fæcal character.

The child, when placed on the operating-table, presented a remarkable appearance, the abdomen being enormously distended, and covered with veins. In miniature, it represented the appearance of a woman suffering from a large ovarian tumour. The genital organs were naturally developed. There was a complete absence of anything like an anus; nor was there any indication to guide to the position of the bowel.

Mr. Harrison operated in the following manner:—An incision was made through the skin at a point corresponding to the anus, and the knife was cautiously pushed upwards in the direction of the rectum for an inch and a half. The incision was made free enough to admit the little finger, which was then introduced to the bottom of the wound, when the pressure of bowel was indistinctly felt. The largest trocar of the aspirator was then introduced, when a gush of fæcal matter took place. Into the puncture made by the trocar an ordinary pair of dressing forceps was passed, by means of which the opening in the bowel was considerably enlarged. A large escape of fæces now took place; no pressure was exercised on the abdomen, as it was thought better to let the distended intestines empty themselves gradually. A piece of oiled lint was introduced through the wound into the bowel. During the remainder of the day the child passed a quantity of fæcal matter.

On the following day (Feb. 9th) the child appeared in no way to suffer from the operation. It had slept and taken the breast naturally. There had been no vomiting. Several motions had been passed.

Feb. 10th.—The improvement continues. Bowels acting naturally.

11th.—There does not appear to be anything wrong with the child: motions are passed at short intervals, the abdomen is almost the natural size, and the child is thriving. The mother and child returned home.

In alluding to this case Mr. Harrison said that he regarded it as one where the lower portion of the rectum was completely absent. By keeping the incision in the direction of the bowel he believed that he had effected an entrance into the intestinal canal at its lowest portion—viz., the upper part of the rectum. Considering the distended condition of the bowels, he did not think there would be any difficulty in maintaining the patency of the opening that had been made. That the child should have suffered so little inconvenience from this prolonged imperforation was a very remarkable feature in the case, and rendered, so far as he was aware, the case unique.

The child's condition on leaving the infirmary was such as to make the prognosis favourable.

LONG LIFE IN ENGLAND.—In the year 1873, for which the returns have recently been published, the lists of deaths included 196 men and 480 women who were registered as ninety-five years of age or upwards when they died. Of these 89 had attained 100 years or more, and it is remarkable that no less than 79 of this number were females. The oldest of the men in the obituary of the year died in the Wolstanton district, Staffordshire, aged 103, but a woman who died in Hurst Almshouse, Exeter, was 108, and another at Newport, in Monmouthshire, had reached the great age of 112. Of these 89 centenarians, 9 were found in London, 13 in North and South Wales, 6 in Yorkshire, and 6 in Norfolk.

Medical Societies.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY.

THE ordinary meeting of this Society was held on the 22nd inst., Sir James Paget, President, in the chair. An interesting communication by Surgeon-Major Porter, on Intermittent Hæmorrhage apparently due to Malarial Influence, led to some valuable remarks upon the pathology of ague by Dr. Lauder Brunton. The evening was not, however, marked by any discussion of note; the remaining two papers, contributed by Dr. W. Roberts and Dr. Wickham Legg respectively, leading to no comment on the part of the members present. At the close of the meeting, the President read a letter addressed to the Society by the Secretary for the Loan Exhibition of Scientific Instruments to be held at South Kensington, inviting members to contribute objects, and apprising them that descriptions of any objects to be shown should be entered on forms which would be supplied from the office at South Kensington.

The first paper read was one on "Intermittent Hæmorrhage apparently due to Malarial Influence," by Surgeon-Major J. H. Porter, of Netley. After referring to recent literature upon the relation of paroxysmal hæmaturia to malarial poisoning, and pointing out the liability to recurrence of intermittent fever produced by shock, loss of blood, &c., the author proceeded to relate the following case:—The patient, a soldier, twenty-two years of age, who had been in the service five years, of which he had spent three years and eight months in India, had, when quartered there in 1873, suffered from a severe form of intermittent fever lasting three months. This was followed by a rheumatic affection of both knee-joints, and, finally, the left knee became disorganised. He was invalided home in April, 1875, when he was very weak, anæmic, and emaciated. The left knee-joint was swollen and painful, and no improvement in its condition taking place, amputation was performed on the 8th of July. The operation gave immediate relief, as shown by a fall in the temperature and improvement in the appetite. On the 16th, the temperature and pulse rose, and the stump became swollen. This change was accompanied by cold and hot stages, resembling ague; and on the 17th there was oozing of blood from the stump. The hæmorrhage continued, and it was found necessary to open up the stump and apply styptics. The hæmorrhage, however, recurred on the 18th, 20th, 21st, and 23rd of July, on each occasion being preceded by hot and cold stages, and on each occasion it was found necessary to open the stump and apply styptics. After the last bleeding the condition of the patient was critical; he was extremely pale and almost pulseless. Bearing in mind the fact of his having had an attack of intermittent fever, sulphate of quinine was administered in doses of five grains three times a day. The bleeding did not recur, and the patient made an excellent recovery.—Dr. LAUDER BRUNTON considered the paper of great value, as illustrating the two points bearing upon the seat of the poison of ague in the body, and the action of that poison. About two years ago, Lussana showed that the seat of action of the ague poison was in the portal system. He demonstrated the existence of a constant circulation of bile between the liver and intestine: the bile excreted into the duodenum, entering the portal blood, and being again carried into the liver. The same course was taken by certain poisons—e.g., mercury and woorari—which when absorbed by the stomach passed through the liver, to be excreted in the bile, and again taken up by the portal blood. Lussana advanced the theory that the poison of ague probably takes a similar course, which would account for the stress of its effects being felt by the spleen and liver. When, however, the poison enters the systemic circulation the fit of ague is produced. In the present case two circumstances had operated to divert the portal blood into the systemic circulation—namely, loss of blood and shock. If Lussana's theory be correct, it would explain the recurrence of a fit of ague when such disturbing elements were introduced. The phenomena of the attack of ague are due to contraction of the cutaneous vessels; and similar symptoms can be produced by experimental irritation of the vaso-motor centre in the medulla. Ludwig, in his earliest experiments, assumed that this centre governed the contractions of all the vessels of the body; but on further research he found that although this centre has great influence over the vessels of the intestines and skin, it has no influence over the vessels of the muscles. It would appear that in Mr. Porter's case there were reproduced in the human subject the very conditions obtained by Ludwig. There was the pale skin and great tension of the cutaneous vessels, associated with free outpouring of blood from the divided soft parts and the bones, the contracted cutaneous and intestinal vessels, as it were, forcing the blood through these parts. A similar explanation may be found to hold in cases of intermittent hæmaturia, the renal vessels being supposed to offer the least resistance, and so to receive the blood diverted from the skin and intestines. The reason of the intermittent action of the ague-poison is not known any more than the nature of the poison is known.—Mr. MACNAMARA regarded the case as a very exceptional one, and thought that if the explanation given by Dr. Brunton were true, similar cases would be more frequent. He had never himself seen a case of intermittent hæmorrhage following operations in malarial subjects, nor is it common to find cases of intermittent hæmaturia in Lower Bengal, where malarial diseases abound.—Dr. DUKA said that he also had spent about twenty years in Bengal, and yet had never met with a similar case to Mr. Porter's. The vascular deterioration from anæmia might have played some part in producing the hæmorrhages.—Sir JAMES PAGET thought the case of great importance as throwing light upon the pathology of ague, and as sustaining the hypothesis so clearly enunciated by Dr. Brunton. It was, so far as he knew, the only case of its kind on record. Ague was apparently due to a poison in the blood, capable of almost indefinite production and reproduction. A few years ago there were still living officers who had contracted ague in the Walcheren Expedition in 1809, and who, even at such a long interval of time, were still liable to attacks which they recognised as similar to those from which they first suffered. He himself had met with one who experienced such recurrence fifty years after the primary attack, and who had been subject to recurrences at long intervals of five or ten years. The case was of great importance as showing that in malaria there may be definite determination of blood to different parts of the body occurring at different times.—Surgeon-Major PORTER, in reply, said that in future cases of hæmorrhage after operation he should take care to inquire into any history of malarial influence.

A paper was then read by WM. ROBERTS, M.D., of Manchester, "On the Estimation of Albumen in Urine by a New Method, adapted for Clinical Use," of which the following is an abstract:—When an albuminous urine is progressively diluted with water, and tested from time to time with nitric acid, the opacity induced by the test becomes gradually fainter and fainter, until at length it ceases to be visible. The more albumen the urine contains, the more dilution, of course, it will require to reach the vanishing point of the reaction; and if we could fix this point with accuracy we could, from the degree of dilution required to reach it, measure the proportion of albumen in urine. But the opalescence produced by the acid fades away so gradually with increasing dilution that it is impossible to determine, within many degrees, the point at which it ceases to be appreciable. The development of the reaction is also more and more postponed as the dilution proceeds, until at length several minutes elapse after the addition of the acid before the opalescence becomes visible. To avoid these difficulties it was found necessary to choose an arbitrary zero to the scale. After various trials the following procedure was adopted:—To dilute the urine until it ceased to give a reaction in thirty seconds after the addition of the acid, but gave a distinct reaction in forty-five seconds. With a little practice it was found possible to strike this point with sufficient accuracy to serve as a practicable zero to the scale. Each dilution, with an equal volume of water, was counted as one degree, and these degrees may be conveniently termed "degrees of albumen." Thus, a urine which requires dilution with a hundred volumes of water to reach the zero reaction may be said to possess one hundred degrees of albumen. In conducting the

inquiry, five cubic centimetres was the unit volume employed, and the dilution was carried on in vessels graduated to cubic centimetres. With English measures the fluid drachm is the most convenient unit volume, and the dilution can be carried on in vessels graduated to fluid ounces and drachms. To ensure exact results the testing must be conducted with rigid uniformity. The test-tube must have a fixed diameter, five-eighths of an inch in the present inquiry; the watch is placed on the table before the operator, the acid is added to the urine at a precise moment, and in such a way that it will sink to the bottom of the test-tube and form a distinct layer below the diluted urine. The test-tube is then held up to the light against some dark background, and as soon as the faintest opacity appears above the level of the acid the time of its appearing is noted. If it appear before thirty seconds after the contact of the acid, more water is added, and the testing repeated as before. Thus, by repeated additions of water and repeated testings, the zero reaction is reached—that is, an opacity coming doubtfully into view in thirty-five to forty seconds after the addition of the acid, and appearing unmistakably, though still very dim, at the forty-fifth second. The degree of dilution required to reach this point is then read off, and recorded in multiples of the unit volume of urine employed. Thus, if a drachm of urine required dilution up to fifteen ounces to reach the zero reaction, the urine was recorded as having 120 degrees of albumen. In order to ascertain the actual value in weight of albumen of each degree on the scale, a series of comparative analyses were made by the weighing method. The result of these was to show that each degree on the dilution scale corresponded to 0·0034 per cent., which is equivalent to 0·0148 grains of albumen per fluid ounce (B.P.) From these data the daily loss of albumen by the urine is easily calculated. Suppose the discharge of urine in twenty-four hours is forty ounces, and that a sample of this gave 150 degrees of albumen by the dilution method; then—

$$0{\cdot}0148 \times 150 \times 40 = 88{\cdot}8.$$

The daily loss of albumen was 88·8 grains. The time required to perform an analysis by this method varies from ten to twenty minutes.

This case was followed by a paper on "The Urea and Chlorides in the Urine of Jaundice," contributed by Dr. J. WICKHAM LEGG. The author, after mentioning that on Meissner's theory of the formation of urea it might be looked for that the amount of urea in the urine of jaundice would be greatly decreased, gives the results of the analysis of the urine in ten cases of jaundice. In seven out of the ten cases the stools were colourless; the temperature was not raised in any. The jaundice was well marked in all. In most of the cases the observations were made on six consecutive days. The urea was estimated in the first half of the cases by Liebig's method, in the second half by Russell's and West's process. The mean of the observations is as follows:—

Disease.	Urine, in c.c.	Urea, in grammes.	Chlorides, in grammes.
Hydatid of liver? ...	2234	28·387	13·801
Hydatid of liver	2790	29·574	11·36
Gall-stones?...	1788	27·28	12·469
Simple jaundice	1355	22·596	10·428
Cancer of liver	570	18·87	6·21
Hydatid?	1433	22·598	...
Cancer of liver	1971	22·87	6·765
Hydatid?	1481	15·975	13·2743
Cancer of liver	1120	18·72	9·756
Cancer of liver?	1100	19·2	9·78

No discussion followed the reading of these papers, and the Society adjourned, the President having announced that the annual general meeting would be held on March 1st, at 8 P.M.

CLINICAL SOCIETY OF LONDON.

THE ordinary meeting of the Society was held on Feb. 11th, Dr. Murchison in the chair. Owing to the dense fog, there were not a dozen members present at the hour of commencement, but the attendance subsequently improved. Several very interesting cases were read, but the discussion on them was with difficulty sustained in the earlier part of the meeting. Mr. Trend's valuable case gave rise to some interesting observations.

Mr. PUGIN THORNTON related a case of acute Œdema of the Larynx. The patient was a cabman, forty-five years of age, who had been much overworked for a fortnight, working both night and day, and getting only four or five hours' sleep, the weather being at the time very cold and snowy. Going to bed one night feeling quite well, he had severe perspiration in the course of the night. On the following morning the breathing was slightly oppressed, and swallowing difficult. Respiration and deglutition gradually became worse, and on the fourth day after the attack he came under the care of Mr. Thornton. On examination, the epiglottis was seen to be an œdematous mass, and the mucous membrane covering the arytænoid cartilages were observed to bulge out in a similar œdematous condition. Scarification was very freely performed, and bleeding encouraged by making the patient gargle as forcibly as possible with hot water. The operation was repeated after an interval of ten minutes; the breathing, which a short time previously had been very laboured, rapidly improved, and the face soon lost all lividity, and swallowing was possible. An hour later, scarification having been repeated, the patient was able to drink with ease, and the recovery was subsequently uninterrupted. Albumen was present in the urine only on the first day of admission to the hospital. Mr. Thornton believed that the disease was undoubtedly due to overwork, combined with exposure to extreme cold. The patient was a temperate man, and had never had syphilis. He remarked that in his belief œdema of the larynx might arise in a mucous membrane perfectly free from inflammation, and that it did not, as stated by some writers, always follow acute congestion. He instanced two cases bearing out the fact, one in which he had seen the patient two hours after the commencement of the œdema, which was over the arytænoid cartilage and at the root of the epiglottis; the other, in whom the œdema was at first over the left arytænoid cartilage, vocal cord, and ventricular band. Mr. Thornton suggested that the disease should in future be classed under the heading of "acute œdema of the larynx," and not as "acute laryngitis."—Dr. MURCHISON thought it questionable whether overwork should be invoked as a cause of the affection; in two cases he had seen it was ascribed to this, but cold was, he believed, quite sufficient to produce it. Was there any evidence of renal disease?—Dr. CAYLEY inquired whether the temperature was observed. If the disease were not inflammatory the temperature should not be elevated. At the same time it was difficult to understand the occurrence of acute œdema without inflammation.—Dr. MURCHISON also observed that acute œdema was not uncommon in blood diseases, when the symptoms were often acute, and the temperature elevated.—Mr. TREHERN NORTON thought that œdema of this region was often found without local inflammation at the spot, owing to slight congestion in the neighbourhood, due to ulceration of the œsophagus or elsewhere. This, however, rarely tended to obstruct respiration.—Mr. WILLETT had most commonly seen the condition as a result of extension downwards of erysipelas of the head and neck. He thought that the author should have described more clearly the pathological condition. If it were not from local inflammation, how was it produced? Local appearances in such cases were often misleading.—Mr. THORNTON replied that the temperature was only 1° F. above normal in the present case, though higher in others he had seen. Where he had been able to watch the onset, congestion was not seen to occur. The œdema was clearly not due to erysipelas or blood poisoning, and had a more clear, pearly appearance than when due to ulceration.

Mr. GEORGE BROWN read a paper on a Case of Reduction of Partial Dislocation of the Astragalus of long-standing. The patient, Clara P——, aged sixteen years, accidentally slipped down a step, about two weeks before Easter, 1874, and twisted her left foot. Previous to this she had nothing the matter with either of her feet or ankle-joints, except that she was always somewhat flat-footed. The foot was very painful after the accident, but as it was thought to be nothing more than a "sprain," no medical advice was sought.

On Easter Monday she took a long walk, after which she suffered great pain in the foot, and there was, the mother states, a decided swelling on its inner side. Next day a surgeon was consulted, who said that there was nothing the matter with the foot beyond weakness of the ankle-joint due to constitutional causes, and that its misshapen condition was in consequence of her being flat-footed. He did not examine the sound foot or compare it with the other. Several months elapsed; meantime the foot gradually grew worse, the deformity became more marked, and the difficulty of walking greater. Towards the end of the year she was scarcely able to walk without assistance. Generally she leant on another person's arm when she walked out, but she spent the greater portion of her time either sitting or lying down. Often the pain of the foot was so great as to prevent her sleeping at night. Mr. Brown first saw the patient on January 9th, 1875. On comparing the two feet it was at once apparent that there was displacement of the astragalus forwards and inwards. The hollow which should exist between the internal malleolus and the scaphoid tubercle was entirely obliterated by the head of the astragalus, which, at this point, was much more prominent than either of the two bony processes before mentioned. Over this projection the skin was tightly stretched. In front of the ankle-joint, and on its outer aspect, where the head of the astragalus is usually felt, there was a considerable depression. The tendon of the extensor proprius pollicis and the long extensor tendons of the toes were much contracted, and the outer side of the foot was drawn upwards. The patient was unable to place the outer side of the foot on the ground, and in walking the whole weight of the body was borne on its inner side. Power of extension or flexion of the foot was almost entirely lost. Reduction was effected in the following manner:—The leg being firmly held by an assistant, Mr. Brown grasped the foot near the toes with the right hand, and forcibly extended it as much as possible. At the same time firm pressure was made on the projecting head of the astragalus with the left hand, which was continued until the bone slipped into its natural position with a distinct snap. The two feet were now, to all appearance, perfectly symmetrical. No splint being at hand, a pad and bandage only were applied. On examining the foot next day, Mr. Brown found that the bone had again slipped out of place. Reduction was again effected, and a well-padded side-splint with foot-piece applied to the inner side. The splint was kept on for seven weeks; after which the patient was permitted to walk with assistance. The patient made a slow recovery, but she has now—thirteen months after the reduction of the dislocation—perfect use of the joint, and can walk long distances without inconvenience. Mr. Brown was of opinion that when the patient twisted her foot before Easter, 1874, some fibres of the internal lateral ligament of the ankle-joint and the calcaneo-scaphoid ligament were ruptured. The head of the astragalus having thus lost its chief internal support, it was gradually forced forwards and inwards by the weight of the body, until the deformity became very marked and the ankle-joint almost useless. Mr. Brown said that the case was of interest, not only on account of its comparative rarity, but as being one of a class of cases that so frequently fall into the hands of "bone-setters," and by which these charlatans sometimes gain a great deal of credit at the expense of the profession. (The patient was exhibited, and the foot examined by the members present.)—Mr. PICK inquired whether any other mechanical appliance was employed to improve the shape of the foot. He thought at first that it was one of the cases of partial displacement of the head of the astragalus which not unfrequently occurred in advanced cases of valgus; but it was evident that it was not an extreme case, and that if so the deformity would have persisted. It was very curious that she should have been able to walk about so long with displacement of the head of the bone.—Mr. WILLETT inquired whether the relation between the astragalus and scaphoid was altered.—Mr. TRENHAM NORTON thought that some absorption of bone would have occurred in so long a period as nine months, if the displacement were of such long standing; hence reduction would be difficult, and some deformity would probably remain.—Mr. BROWN replied that no further means were taken to restore the arch of the foot on account of the circumstances of the patient not allowing of the expense. The bone was no doubt not displaced to an equal extent during the whole of the nine months. Patients could walk with dislocation of the astragalus; he had seen one case in which the patient walked for three or four days after.

Dr. CAYLEY read a communication from Mr. Kesteven, describing the sequel of a case of Cancer of the Breast published in vol. vi. of the Society's Transactions. The case was one in which the first operation was performed eight years before, and was repeated after two years. Six years after the second operation the patient seemed in good health, and no local recurrence had taken place; but since that time she had succumbed to cancer of the rectum and osteo-sarcoma of the femur. Dr. Cayley said that the case was remarkable both from the long period of quiescence of the disease and from the situation of the recurrence of new growth—viz., in the rectum and the femur,—both being rare, and probably indicative of a constitutional taint.—Dr. COUPLAND confirmed Dr. Cayley's observations as to the rarity of secondary growths in the rectum; he had found no case on record as occurring in the Middlesex Hospital for many years. As illustrating the long interval which sometimes elapses before the occurrence of secondary growths, he mentioned a case recently under the care of Dr. Greenhow in which a scirrhus of the breast had been removed seven years previously in two operations. The patient ultimately died of cancer of the liver, but no local recurrence had taken place.—Dr. GREENFIELD suggested the importance of a more minute description both of the histological characters of the new growth in the different situations and of the condition of the glands connected with the seat of primary growth. It would be a very important case if the new growths were of different histological character from each other and from the primary growth. Moreover, the new growth in the rectum might have occurred by extension, either through infection of the lymphatic glands of the thorax and abdomen, or by local extension from the ovary, which was not very rarely the seat of cancer coincidently with the breast. Hence, to make the case complete, these conditions should be excluded.—Dr. MURCHISON agreed with Dr. Greenfield as to the importance of a microscopical examination. He referred also to a case he had recorded in which a secondary recurrence of spindle-celled sarcoma in the liver proved fatal nine years after the removal of the eye for the same disease.—Dr. CAYLEY said that there was no note of any post-mortem examination having been made, and the terms were probably employed in a clinical rather than an histological sense.

Mr. TREND reported a case of Purpura Rheumatica, which occurred in a lad seventeen years of age. The patient had previously been anæmic and out of health. The illness commenced with sore-throat and well-marked tonsillitis, with a distinct rigor, and pain and swelling in the joints followed; the temperature on the second day was 102°; pulse 110. Two days later purpuric spots appeared on the knee, and next day the left arm became double its proper size, cold, coal-black, though free from tenderness, and the radial artery pulseless. The arm was wrapped in cotton-wool, perchloride of iron given, and nourishment and stimulants. During the following days purpuric spots appeared on the wrist and ankle and lobes of ears, and there were dysenteric bloody stools. Swelling of both knee-joints and of the right elbow occurred. On the swollen arm a large bleb formed, which was subsequently opened, and eight ounces of bloody pus removed from it. The arm soon returned to normal size. Fresh patches of purpura, however, appeared after most of the acute symptoms had subsided. The slough from the arm separated well, and the wound granulated, leaving, however, a large cicatrix. Recovery was rapid and complete. The case was seen by Dr. Reynolds and by Sir W. Jenner, neither of whom had been able to throw any light on its nature, nor had Mr. Trend himself. The only peculiarity in the diet of the patient was, that he objected to green vegetables, and took a good deal of bread-and-cheese.—Dr. MURCHISON had seen a somewhat similar case a year ago. He inquired whether the joint affection was erratic, what was the nature of the perspiration, and whether there was hæmorrhage from other mucous membranes than that of the bowels, and if the purpuric spots were much raised. In the case to which he alluded the attack began with swelling of the knee, which was supposed to be due to an injury, although none was proved to have occurred, but which he thought rheumatic, though no other joint was affected.

The effusion into the joint was followed by extravasation of blood beneath the skin, at first resembling urticaria or purpura, but subsequently ecchymotic. Hæmorrhage also occurred from the bowels, kidneys, and gums, and lasted some weeks. The fever was slight, and there was no evidence of specific fever, and no history of injury.—Dr. A. P. STEWART remarked that in the course of rheumatic fever various kinds of eruption were observed, unconnected with the special character of the symptoms. These successive crops of purpuric spots might be seen in cases with multiple joint affections, and so also might rheumatic erythema. He had seen two remarkable cases resembling Mr. Trend's. In the first, the eruption was supposed at first to be due to mercurial treatment for syphilis, but on close inquiry the history of syphilis and of mercurialism broke down. The gums were spongy, there was fetor of the breath, and a purpuric eruption. The second was that of a gentleman whom he saw in an apparently moribund condition. There were joint swellings, and an elevated purpuric eruption. Both cases were treated chiefly with lemon-juice, and both recovered.—Dr. GREENFIELD inquired whether the case might not possibly be one of anomalous scurvy, mentioning a case which showed that it might be met with where little suspected. He asked for particulars as to the condition of the heart, and whether there were any cerebral symptoms, mentioning that he had found patches of ecchymosis in the brain in fatal cases of purpura hæmorrhagica.—Mr. GEO. BROWN mentioned a case of purpura hæmorrhagica occurring in a weakly child after amputation of the thigh, which was cured with ergot and steel wine.—Dr. HARRY LEACH remarked that we must not jump to the conclusion that this was a case of scurvy. In scurvy there was always sponginess of the gums, and a history of the absence of vegetable diet. On inquiry of the patient he found that he had had potatoes, and all kinds of food, except that he had avoided "green meat." Moreover, scurvy scarcely ever attacked the upper joints, almost always the lower; and the severest attack of scurvy might be unaccompanied by the smallest amount of hæmorrhage from the mucous membranes.—Mr. TREND, in reply, said that the spots were not raised. There was no hæmorrhage from mucous surfaces, except from the bowels, for seven or eight days. The joint affection was erratic. The ankle- and knee-joints were swollen; but the wrists alone of the joints of the upper limbs were affected. The perspiration was acid; the heart, though carefully examined, was normal. In answer to Dr. Greenfield, he stated that the patient was delirious, and almost comatose for two days, during which he had to be fed artificially.—Dr. WATKINS mentioned a case of purpuric eruption occurring in a case of rheumatic fever, where the patient had been taking chloral for some days.

Reviews and Notices of Books.

The History of Creation. From the German of ERNST HÆCKEL, Professor in the University of Jena. The Translation Revised by E. RAY LANKESTER, M.A., F.R.S. In Two Volumes. London: Henry S. King and Co.

THIS work is an attempt to supply a rational account of the Creation, on the theory of Darwin, and it must be acknowledged that Prof. Hæckel does not shrink from following out the consequences of this theory to the uttermost. It must also be acknowledged that, whatever his success may have been in the object he has had in view, he has at least produced a singularly interesting work.

It is difficult, if not impossible, to avoid in such a history reference to the Biblical account; but, on the whole, Prof. Hæckel has steered clear of this rock, and has confined himself to a simple statement of what he conceives to have been the actual course of events, without indulging in any of those disagreeable reflections which so strongly arouse the pugnacity of pious people. Two views have always been, and perhaps always will be, held in regard to the origin of the universe. One order of mind sees in the exquisite adaptations of the various members of the external world to each other, in the order and harmony of natural events, in the beauty and perfection of all created objects, the expression of the will of a Creator by whom first they were originally formed, and to whose unceasing and personal care and watchfulness they are preserved in their pristine excellence. To another class of mind, not, perhaps, less truly religious, this conception of a personal deity immediately superintending his works, creating and destroying arbitrarily and capriciously, appears wholly inadequate and unsatisfactory; and by them it is regarded as more consonant with a rational interpretation of the phenomena that we daily see around us, to believe that the Creator has originally laid down certain general laws, which have governed and still continue to govern all natural phenomena. The former of these views, sometimes termed the *dualistic* or teleological conception of nature, is that represented by the Mosaic cosmogony in the Jewish scriptures; whilst the latter, named the *monistic* or *realistic* conception, is that which is supported so strongly by the present author. The former assumes a supernatural or non-mechanical cause for the origin of all organisms; the latter considers that both organic and inorganic bodies are the necessary products of natural forces. The former admits, the latter denies, the occurrence of sudden violations of ordinary sequences, cataclysms, miracles. Both views have their defects, which their opponents are quick to seize upon. The one accounts with difficulty, or not at all, for sin and pain and death, and is apt to degenerate into anthropomorphism; the other leads to pantheism, and by a further step to atheism.

The first volume of the work commences with an analysis of the various theories of the creation and of development propounded by Linnæus, Cuvier and Agassiz, Goethe and Oken, Kant and Lamarck, and Lyell and Darwin, the latter, of course, occupying by far the largest space. Fully accepting Darwin's view that the various species of animals now existing (man included) may be traced back to a few ancestors, and perhaps even to a single common ancestor, he proceeds to show the grounds on which this view rests. These are essentially reducible to three heads—first, the results of modern research in the domain of comparative anatomy; secondly, those derived from palæontology; and, thirdly, those obtained from embryological investigation. The evidence supplied by these three great lines of research is, he believes, wholly in favour of the view that there has been no break in the chain of continuous development, and that man is but the outcome of, and hitherto the most perfectly organised creature that has proceeded from, the moner.

The gradual development of more and more highly organised species from those of lower complexity he terms "phylogeny," whilst the development of each individual from the egg to the adult state he terms "ontogeny." This last he conceives to be, in each animal, an epitome of the developmental history of the long line of its ancestors—a short and quick repetition or recapitulation of phylogenesis determined by the laws of inheritance and adaptation. Hence the embryonic development of any animal runs a parallel course with the palæontological development of the tribe to which it belongs through certain stages, which perhaps have taken many ages to complete, and may be passed through with such rapidity in the development of the individual as to escape observation.

In reviewing the palæontological evidence in favour of his views, Prof. Hæckel admits that a variety of circumstances have rendered the geological record extremely incomplete, and is reduced to speculate largely on the nature of the earliest formed animals, which, by reason of their softness, having left no direct record of their existence.

The first stage of organic life, however, he believes to have been formed, possibly by spontaneous generation, of Monera—i. e., shapeless lumps of an albuminous material, without nucleus or cell-wall, which made their appearance soon after the temperature of the earth had so far fallen as to allow watery vapour to condense into great seas. To this succeeded the form of the Monerula or Cytod, in which a nucleus was developed, and which is represented by the amœba of the present day; and it is to be observed that though the ovum is a true cell with nucleus, yet that in many instances the nucleus disappears directly after fecundation, and the cell relapses to the lower stage of development of a cytod without a nucleus, like a moneron. This he interprets, according to the law of latent inheritance, as a phylogenetic relapse of the cellular form into the original form of a cytod.

The amœbiform cells, uniting into communities, formed Synamœba, the most ancient *many-celled* primary form of the animal kingdom, and of this a trace is still seen in the mulberry mass resulting from the cleavage of the yelk—the morula stage of development. Out of the synamœbæ, in the early Laurentian period, the ciliated germ—Planæa—arose, composed of two layers of cells, an internal amœboid series, and an external ciliated series. A little later the Gastræa form arose, consisting of a sac-like body, with an orifice at one extremity, leading to a simple cavity. The Gastrula stage, an exceedingly important larval form, which makes its appearance in the ontogenesis or embryological development of all tribes, from zoophytes up to the lowest vertebrata, corresponds with the primary Gastræa form. In the higher vertebrata it disappears, in consequence of the operation of the law of abbreviated inheritance, though a trace of it still persists in the division of the blastoderm into an animal layer or epiblast and a vegetative layer or hypoblast. From the Gastræa form the transition was easy to the Prothelmis, or common primary form of worms, presenting analogies to the Turbellaria and Scolecidæ. After these came a Tunicate-like animal, some analogue of which still exists in the form of the ascidian, presenting in the beginnings of the spinal marrow and the spinal column near and important relations to the vertebrata. Prof. Hæckel does not, indeed, say that vertebrate animals are derived directly from tunicate animals, but merely that both groups have arisen out of a common root—the worms. The *skull-less animals* then appeared, now represented by the lancelet; then the Monorrhina, or hags and lampreys; and from these proceeded the primary double-nostriled animals—the Proselachii, or lowest forms of sharks. Then followed the Amphibia, and then a common hypothetical form of all Amniotic animals, probably intermediate between salamanders and lizards. Then came the Monotremes and Marsupials, which led again to the Placental mammals, a development that occurred in the beginning of the tertiary epoch during the Eocene period. From these arose the semi-apes or Lemurs, the Eocene ancestors of man. From these the transition is easy, through the Catarrhina, or tailed narrow-nosed apes, the Anthropoides or man-like apes, and ape-like men to man himself. Such is the phylogeny of the human race.

It need scarcely be said that much, very much, of all this is highly hypothetical, and what must strike every reader is the large demands that are made on his faith in regard to the existence of transition stages, a few only of which have been discovered, and in regard also to the existence of the simpler forms. On the other hand, there can be no question that this view affords an explanation of many facts that are otherwise extremely obscure. The stumbling blocks of transitory organs, of rudimentary organs, of the degeneration of fully formed organs, are all readily explicable on the supposition that the stages through which each animal passes represent the perfect state of one of its ancestors. Still little more can be said for it than that it offers a rational, an intelligible, and a highly interesting explanation of the present state and condition of the world; but endless details require to be discovered by palæontological and embryonic research before it can be held that we have in these phylogenies a true solution of the successive stages that are passed through by an embryo in the process of development. We are far from saying that such discoveries may not hereafter be made, but at present our knowledge is not sufficiently accurate or extensive to enable definite conclusions to be drawn on so important a subject.

Our space only permits us to add that the work is illustrated by admirable maps and plans representing the phylogeny, not of man alone, but of most of the mammalia, which show in a most interesting manner the affinities they hold to one another and to ancestral forms.

Lastly, we cannot conclude without congratulating the young lady by whom the volume has been translated, and Professor Lankester who revised the translation, on the intelligible English into which the original has been converted, nor without expressing our thanks for the very interesting work she has placed in the hands of Englishmen.

Royle's Manual of Materia Medica and Therapeutics. By JOHN HARLEY, M.D., F.R.C.P. Sixth Edition. London: J. and A. Churchill. 1876.

THIS excellent text-book, which for many editions was supervised by the late Dr. Headland, reappears in a revised and extended form under the editorship of Dr. John Harley, whose labours in the field of experimental therapeutics render him fully qualified for the task. So careful and extensive has been his labour, that the present edition may be considered almost as a new work. As might be expected, it is among the vegetable alkaloids that we find the fullest exposition of physiological actions, and those who may be unacquainted with Dr. Harley's labours on atropia, aconitia, conia, &c., will here find them clearly epitomised. Among recent additions to the materia medica, jaborandi stands foremost, and the section devoted to it is brief, but to the point. It is accompanied by an illustration of Pilocarpus pinnatifolius; and here we would remark upon the value and interest of the illustrations, which are freely scattered through the work. We do not notice any mention of methylamine, or of the employment of phosphorus in neuralgic and anæmic affections, but there are not many omissions of this sort. We must confess we should have liked fuller details of the therapeutical actions of some remedies, but as the author in his preface discountenances all results obtained from experiments on "mutilated animals," the reason of such curtailment is made plain. The book, however, is one which the student will find most useful.

REPORT OF THE ROYAL COMMISSION ON VIVISECTION.

WE have already indicated some of the more salient points in the Report of the Royal Commission on Vivisection, and stated the conclusions at which the Commissioners have arrived, as well as the recommendations they have made to Her Majesty as a practical basis for legislative action. To begin with the composition of the Commission itself. Various shades of character and opinion were represented, and while some of its members possessed a great reputation for scientific attainments, others were distinguished as men with clear well-balanced minds, with the experience of official training to guide them in the inquiry. The report is unanimous,

and it represents the results of a large amount of work that was, we believe, honestly undertaken, and has certainly been uncommonly well done. We are careful to say thus much at the outset, for we hope to see its conclusions accepted as final. It is of the nature of a compromise to some extent no doubt; but it is not the worse on that account. The judgment is insensibly influenced by the temperament and character of individuals equally honest and equally well-informed. The subject was one of extreme difficulty; still we believe that, by the measures proposed by the Commissioners, the progress of medical knowledge may be made compatible with all the just requirements of humanity. To proceed with our analysis of the Report, however. The Commissioners, after referring to the character, variety, and amount of evidence taken, dwell upon the very altered aspect assumed by physiological science of late, and the probability of the growth of the experimental method of inquiry—which has been so fruitful of results in other directions—in this direction also. Dr. Sharpey puts it very well when he says that the application of physics to the phenomena of life, particularly in making exact quantitative determinations, is one of the great characteristics of modern physiology. The Commissioners, in tracing the origin and development of the very strong feeling which has been manifested, in this country especially, on the subject of animal experimentation, proceed to explain the causes thereof, and to show that in some most important respects this feeling had its origin in misconception and was vastly augmented by the exaggeration and misunderstanding to which reports on such a subject are necessarily liable when not critically examined and not based upon the evidence of eye-witnesses. Medicine rests upon the triple basis of clinical observation and pathological and physiological research; and an interesting historical reference is made to the practice of animal experimentation, which appears to have been coeval with the commencement of the pursuit of medical science. It has continued from the times of Celsus and Galen, through those of Harvey and Haller, onwards to the present day. Harvey was almost entirely indebted to it for his memorable discovery, and Haller, truthfully described by Dr. Sharpey as one of the greatest of physiologists and the author of the greatest work on physiology perhaps that ever appeared, touches the subject with rare ability, remarking with philosophical acumen that "a single experiment will sometimes refute the laborious speculation of years." Haller, however, was careful to guard himself against the imputation of cruelty, by fully recognising the responsibility incurred, and by indicating that painful experiments were not to be lightly undertaken, and that an idle inquisitiveness or a passion for reputation could not justify their performance. Mr. Darwin expresses himself in the most emphatic language on this subject. Eminent as Mr. Darwin is in science, he has been but little conversant with experiments on living animals. In fact, the Commissioners declare that at the present time a general sentiment of humanity on this subject pervades all classes; that the feeling of students is a perfectly wholesome one in respect of it; and the Secretary of the Royal Society for the Prevention of Cruelty to Animals admits that the general tendency of the scientific world in this country is sound, whilst giving the opinion of the Society against some experiments as being beyond the legitimate province of science, or not justifiable for the scientific object in view.

The Commissioners show that the practice of subjecting living animals to experiment could not be altogether prohibited, and that it would not be reasonable, even if it were possible, to prevent it by legislation. They appeal to the testimony of Sir Thomas Watson and to the reasons he assigned for his opinions in a paper published in *Macmillan's Magazine* when the controversy began; also to the evidence of Sir James Paget, and to the resolutions passed at the meeting of the British Association in Edinburgh in 1871; and the Commissioners declare the reasoning of Sir James Paget, Mr. Simon, and others, to prove that animal experimentation should not be prohibited, to be such as it is not easy to confute. The sum total of suffering saved to ourselves and the lower animals is out of all proportion to that caused by such experiments. "We save ourselves," says Mr. Simon, "a great deal of needless experimentation on man by some experimentations on the lower animals."

The Commissioners then discuss the subject under the three heads of operations, the administration of poisonous or dangerous drugs, and the artificial production of disease. This section of the Report is very ably and at the same time conclusively set forth. Under the first head the discovery of the circulation of the blood, that of the action of the lacteal and lymphatic systems, and Sir Charles Bell's discovery of the compound function of the spinal nerves, may be selected for illustration, lying, as they do, at the very foundation of our present physiological knowledge. It would require a voluminous treatise to exhibit in a consecutive statement the benefits that medicine and surgery have derived from these discoveries. If Harvey's experiments, and those upon the lacteal system, were to be performed now, the animals would be rendered insensible to pain, and even in the case of Sir Charles Bell's experiments this would be partially done. If, therefore, the Commissioners very pertinently remark, their present inquiry had been instituted at some former time, they would have been compelled, in regard to this class of experiments, to weigh the infliction of great suffering against the loss of knowledge most important to mankind, but only to be looked for from experiments that involved such suffering. By the discovery of anæsthetics they have, however, been relieved from that necessity, and their present task is to devise measures which may prove effectual to prevent the abuse of experiment. As regards the administration of poisons to the lower animals, they cite Sir James Paget as entertaining the hope of discovering an antidote for snake-poison in proof of the absolute necessity of the performance of these experiments. To show the advantages to man to be derived from the administration of drugs to animals, we may point to the lately-discovered utility of nitrite of amyl in angina pectoris, in consequence of observing its effect on animals, to say nothing of the discovery of anæsthetics themselves. It seems to have been generally allowed that experiments on the lower animals in connexion with toxicology and medico-legal jurisprudence were justifiable; this portion of the Report, consequently, need not detain us. Most persons will be able to recall many very notable examples of the important aids to the administration of justice afforded by this method of investigation.

It is pointed out that the production of disease in animals has been already, and is likely to become still more, the source of knowledge, prophylactic as well as therapeutic, tending in the most important degree to the prevention as well as to the mitigation and the cure of disease in the human family, of which there can be no simpler or more striking example than that of vaccination for small-pox. And at the present time systematic experiments are being made in Mr. Simon's department with the object of establishing facts by the light of which effective measures may be taken for the prevention or cure of disease. Studies of this kind are sometimes made more immediately in the interests of man—as, for instance, in the case of Asiatic cholera,—and sometimes in that of the domestic animals,

as in the case of sheep-pox and cattle-plague, but perhaps oftenest in the interests of both.

A considerable number of those directly occupied in purely physiological instruction were examined before the Commission; for example, Dr. Burdon-Sanderson, Dr. Ferrier, Professor Rolleston, Dr. Michael Foster, Dr. Rutherford, and several others, all of whom, notwithstanding some differences of opinion, either recognised, with varying degrees of force, the advisability of legislative interference, or were, at any rate, not opposed to it. Had the weight of authority been less, however, the Commissioners declare that they would have considered themselves called upon to recommend it by the reason of the thing. Inhumanity has been undoubtedly found, and may be so again, in persons of high position as physiologists; and Dr. Carpenter alludes to his having witnessed the exhibition of a callousness to animal suffering, before the introduction of anæsthetics, which strongly repelled him. Besides cases of inhumanity, the Commissioners are satisfied that there are others in which carelessness and indifference prevail to an extent sufficient to call for legislative interference. It would be manifestly unfair and ungenerous to declare other nations more blameable in this respect than ourselves, but we are compelled to believe that practices have been occasionally adopted and followed on the Continent which would not be tolerated in this country. And it was unfortunate, to say the least, that the publication of a handbook in connexion with physiological laboratory work was calculated—quite inadvertently, no doubt—to give rise to misconceptions and erroneous impressions.

We have already stated the recommendations made by the Royal Commissioners, and we concur with them in thinking that by such a measure as they have proposed the progress of medical knowledge may be made compatible with the just requirements of humanity. We know how difficult it is to frame laws on such a subject that shall practically work well, but of this we have no doubt—viz., that the Royal Commission has most ably and conscientiously laboured to this end.

THE EFFECT OF PROLONGED MUSCULAR EXERCISE ON THE SYSTEM.

BY F. W. PAVY, M.D., F.R.S.

THE recent pedestrian feats at the Agricultural Hall have afforded me an opportunity of investigating the effects of prolonged muscular exercise upon the system, and in compliance with the desire expressed I have pleasure in furnishing for publication in THE LANCET an account of the results observed.

In the first performance Mr. E. P. Weston, the renowned American pedestrian, undertook to walk 115 miles in twenty four consecutive hours, and in response to his challenge Perkins, celebrated amongst English walkers as having accomplished a walk of eight miles within an hour, started as a competitor.

The walk was commenced on the evening of February 8th. Two tracks, situated alongside each other, had been measured out and assigned to the two pedestrians. Weston's track was covered with a mixture of loam and gravel, whilst in that of Perkins the boarded floor was uncovered. Weston wore thick-soled but light boots with a shallow heel, laced up in front and reaching above the ankle. He was in knickerbockers, and over his legs he had shining leather leggings kept in position by elastic metal bands above and below. Perkins was in ordinary athletic costume, with thin slipper-shoes. Weston is a spare man, thirty-seven years of age, 5 ft. 7½ in. high, and weighing, as a subsequent examination showed, a little under 10 stone. Built with a broad pelvis, the chief movement in walking is from the hip-joint, a swing being given to the body by the movement of the shoulder. The foot is carried only just sufficiently high to clear the ground, and but little motion occurs in the ankle and knee joints. The muscles at the upper part of the thigh are well developed, but the legs and feet are small, and the skin of the sole hard and thin. Perkins is a man twenty-three years of age, 5 ft. 5 in. high and 9½ to 10 stone in weight. His form of walking is perfection. Every muscle of his body seems to be brought into action. Free movement occurs at the ankle and knee, as well as hip. His leg is raised and carried forward with a long stride. The effect is good, but as in the case of a high-actioned horse, it is evident that it must tell considerably upon the feet and legs.

Starting at 25 minutes past 9, Perkins showed himself to be much the quicker walker of the two, but the trial was one of power of endurance, and not of speed. At 3 A.M. (Feb. 9th), Perkins stopped for 25 minutes, and partook of food. His feet till then had not materially suffered, but soon after resuming his walk they began to pain him, and it was deemed advisable to change his shoes for lace-up, canvas, heeled boots. The difficulty now gradually grew greater and greater, and becoming more and more footsore, he was compelled to give in at 10 minutes to 12, after accomplishing a distance of 65¼ miles. When I saw him at 2.30, he was not only footsore, but otherwise knocked up. He had vomited after his meal at 3 A.M., and again after giving up, and he was lying in front of a fire in a private room of the establishment. His pulse was 102, feeble and irregular; the heart-sounds were normal. Temperature of the mouth 100·6°. The pads of his heels were hot, swollen, and tender. It is here that his feet more particularly suffered. Weston meanwhile kept walking on, but about 2 P.M. rested for a short time distressed with temporary exhaustion. The state of the atmosphere was such, it being a foggy, oppressive day, that it was scarcely to be wondered his exertion should prove unusually trying. For a time it appears he felt sick and giddy, but afterwards reviving, walked with strength and alacrity until the completion of the twenty-four hours, when he had accomplished a distance of 109½ miles. On reaching home he conversed freely, and appeared but little muscularly tired. His pulse was steady and firm, at first 100, and then lower. The heart-sounds were normal. The temperature of the mouth 97·6°. On the removal of his boots the only effect visible upon his feet was some vesicles in the neighbourhood of the toes. These he punctured himself with a needle with a perfectly steady hand, and then plunged his feet for a few minutes into salt and water. The following morning he was up and about before people generally were stirring.

The food taken by Weston during the walk was mainly of a liquid nature, consisting of beef-tea made from Liebig's extract, yelks of eggs, jelly, sea-moss farina (an American preparation), coffee, tea, milk, sugar, and towards the end of the walk a little champagne, and brandy much diluted with water. To economise time he did not stop to take it, but consumed it whilst walking on the track in small quantities at a time and frequently.

Perkins took nothing after starting at 9.25 P.M. till 12.35 A.M., when he had two eggs beaten up in a large glass of sherry. At 3 A.M. he stopped and partook of a large loin mutton-chop and a pint of Burton ale. About half an hour afterwards he vomited, and apparently threw up all he had taken. At 4 A.M. he had some coffee-and-brandy; at 6 A.M. a glass of sherry; at 7 A.M. coffee-and-brandy; at 8.44 A.M. part of a mutton-chop, toast, and a cup of tea with an egg beaten-up in it; at 10.30 A.M. a cup of beef-tea; at 11 A.M. the same, and also at 11.30 A.M. Between 10.30 and the time of leaving off at 11.50 A.M. he also partook of small pieces of jelly at intervals. Soon after 12 he vomited a second time, and threw up the meat he had taken a little before 9, and looking in the same state as when it had been swallowed. From the time of leaving off till the completion of the twenty-four hours he consumed four yelks of eggs beaten up with water, and about a quart of freshly-made beef-tea.

I had made arrangements for the whole of the twenty-four hours' urine to be saved of each pedestrian for examination. This was successfully carried out in Perkins' case, but in that of Weston, through inadvertance on the part of one of the attendants, slops were thrown into it, and it was rendered useless for analysis. In the absence of the collection of the urine for the twenty-four hours, I thought the next best step was to obtain, for examination, the first portion passed after the completion of the walk, and it was about an hour after the period that this was done.

The following are the results of the examination conducted:—

Perkins' urine passed during the twenty-four hours.—Amount, 2047·7 c.c. (3 pts. 12 oz. 1 dr.); specific gravity 1027·48; free acidity, reckoned as oxalic acid, 1·79 grammes in 1000 c.c. (·787 grain in 1 oz.); turbid from lithates. The microscope revealed the presence of the amorphous lithate of soda, with a few crystals of oxalate of lime. Composition in 1000 parts:—

Water		945·50
Organic constituents—		
Urea		39·22
Uric acid		·59
Other organic matters		4·94
Mineral constituents—		
Chlorine	·39	
Sulphuric acid	3·11	
Phosphoric acid	3·69	
Soda	1·12	
Potash	·78	
Lime	·49	
Magnesia...	·06	
Loss	·11	—— 9·75
		1000·00

Total quantity of solids excreted during the twenty-four hours:—

Urea	82·52 grammes	(1273·48 grains)
Uric acid	1·25 „	(19·29 „)
Other organic matters	10·38 „	(160·18 „)
Chlorine	·82 „	(12·64 „)
Sulphuric acid ...	6·55 „	(101·08 „)
Phosphoric acid ...	7·78 „	(120·06 „)
Soda	2·35 „	(36·36 „)
Potash	1·64 „	(25·31 „)
Lime	1·04 „	(16·05 „)
Magnesia	·13 „	(2·00 „)

Weston's urine passed one hour after completion of walk—Quantity 113·4 c.c. (4 oz.); specific gravity 1028·96; free acidity, reckoned as oxalic acid, 1·687 grammes in 1000 c.c. (·738 grains in 1 oz.); dark straw colour, with pretty copious mucoid deposit; albuminous to a moderate extent. Microscopic characters: an abundance of hyaline and granular casts of tubules, many with nucleated cells visible; a few crystals of oxalate of lime; granular exudation cells, and flattened epithelial particles. Composition in 1000 parts:—

Urea	37·63
Chlorine...	·48
Sulphuric acid	2·50
Phosphoric acid ...	2·68
Total solids	50·40
Ash	7·04

Urine passed by Weston at 3 P.M. *February 15th.*—Quantity 156·17 c.c. (5½ oz.); specific gravity 1025·38; free acidity, reckoned as oxalic acid, ·96 grammes in 1000 c.c. (·42 grains in 1 oz.); bright amber colour and clear. Microscopic examination revealed the presence only of a few crystals of uric acid. Composition in 1000 parts:—

Urea	25·61
Chlorine...	3·74
Sulphuric acid	1·67
Phosphoric acid ...	1·46
Total solids	45·34
Ash	16·60

This completes the observations bearing on the first performance. The unnatural condition of Weston's urine passed after his walk shows that albumen and casts of tubules may be made to appear through a general influence. There were no blood-corpuscles perceptible. In his subsequent performances there has been no deviation from the natural state, and the result was probably attributable to an altered condition of the blood induced by the

Microscopic appearance of the deposit from Weston's urine passed one hour after his first walk of twenty-four hours.

vitiated atmosphere which he had to breathe at the time. Weston attributes the exhaustion from which he at one period suffered to the tobacco smoke which strongly pervaded the building, and says that it always acts perniciously upon him whilst walking. However this may be, the fact noted as regards the urine is one of considerable interest from a pathological point of view.

There are several noteworthy points belonging to the figures yielded by the chemical analyses. The exercise determined the elimination of an extraordinary quantity of urea, 500 grains per diem being the average amount excreted under ordinary conditions. I forbear at present to do more than direct attention to the fact. It certainly clashes with the recent results which have been obtained by others. In a matter of so much importance scrupulous care was taken to secure that there was no fallacy in the process of analysis. The determinations were made by both Liebig's, with the mercuric nitrate, and Davy's method, with the hypo-bromite solution, and the results were found to agree within a fraction with each other. As regards the saline constituents of the urine, a comparison of that passed under the influence of the exercise with the ordinary state shows a marked deficiency of the chlorides, and a notable excess of the sulphates and phosphates.

I must defer until next week furnishing the results belonging to Weston's second performance, in which he accomplished a walk of 180 miles in forty-eight hours. This time I succeeded in obtaining the urine for each period of twenty-four hours. I have also a precise account of the food taken. He is still under my observation in the three days' walk which he is now undertaking, and I procured the urine voided during the twenty-four hours before he commenced his feat, and am contemplating also carrying the investigation on through the twenty-four hours after its completion. Mr. Weston enters with as much enthusiasm into the spirit of these researches as into his walk, and has placed every facility at my disposal. It is only a just tribute to him to say that science is indebted to him for his desire to aid its advance.

IN a fatal case of small-pox in Norwich Castle, the Coroner wrote to the Home Secretary, asking whether a surgeon's certificate of the cause of death would not be sufficient. He was, however, informed that an inquest must be held.

THE LANCET.

LONDON: SATURDAY, FEBRUARY 26, 1876.

THE vitiation of our national statistics of the causes of death is admitted in, and is not likely to be reduced by, the reply of Mr. SCLATER-BOOTH to the serious questions put in the House of Commons by Mr. WADDY on Monday night. The questions had reference to the case of Oldbury, and to that of the sub-district of Tunstall in the Staffordshire Potteries, in regard to which places Dr. BALLARD showed that the statistics of the cause of death collected by the registrars were to a large extent worthless, being supplied by unqualified practitioners. Of the certificates of the cause of death of 196 persons from epidemic diseases in Tunstall, no less than 86 had been given by unqualified and unlicensed practitioners. Dr. BALLARD says he was satisfied that a considerable number of the deaths recorded as from "fever" were really deaths from scarlatina. All the facts that come to hand in reference to this matter simply go to confirm Dr. BALLARD'S statements, which are not often lacking in accuracy. These statements are not denied by the Registrar-General; and we have reason to believe that the Registration Act of 1874 has made no difference in the state of matters. Some minds may be relieved in regard to this subject by learning that the uncertified deaths are very largely those of children. But we are sure that no right-minded person will think without regret of children dying in great numbers of zymotic disease without medical attendance or what is understood as such in civilised communities and by the law of this country. The Registrar-General very properly points out in the Report of the week before last the large number of deaths uncertified in South London, amounting to nearly 30 in the 1000.

Mr. WADDY, on Monday, asked questions of the Government with the intention of ascertaining whether the evil we have referred to existed, and who was responsible for it. The answer was eminently unsatisfactory. The existence of the evil was, as we have said, confessed. Mr. SCLATER-BOOTH admitted that the registrars took information such as they could get, registering deaths from unregistered assistants, from bone-setters, herbalists, and the like. He said, indeed, that nothing beyond "information" as to the cause of death was taken from such people. This is a very cool answer to make to a member of Parliament who is jealous of the value of public records. That nothing but *information* of the cause of death is to be taken from bone-setters and herbalists! Why, this is the very thing they cannot give. It is no comfort for Mr. SCLATER-BOOTH to tell us that registrars do not regard the document coming from these persons as a "certification." They regard it as "information" worthy of insertion in the public records—in column No. 6. Surely the Government will not let this matter rest here. By doing so it facilitates a form of infanticide, consisting in children being treated for "fever" and being reported as dying of it—when they have had scarlatina,—or in children dying entirely unattended and the deaths being registered as smoothly and with as little difficulty to the negligent parent as if they had been duly attended. Mr. SCLATER-BOOTH must feel that, if column No. 6 is to be worth anything, it must represent medical knowledge and not the absence of it. It is comparatively a slight matter that medical men should be offended by having as co-contributors to column No. 6 "bone-setters," herbalists, *et omne hoc genus*. But it is a very serious matter that the Government of this country, by a Registration Act so late as 1874, should make it easy to load column No. 6 with worthless statements, and give colour to the notion that it cares nothing about the fact that a large proportion of the people die attended by persons falsely supposed to be medical men, because of the State taking information from them on technical and professional subjects. Medical practitioners contribute willingly to column No. 6. They are subject to a fine if they refuse to do so. They act gratuitously and heartily. But they have a right to ask, and will not cease to demand, that column No. 6 shall represent medical knowledge and not "information" from bone-setters, herbalists, &c. This matter cannot rest here. The Returns of the Causes of Death are seriously disparaged, and the public is deeply interested in having them placed above suspicion. Mr. WADDY will earn the thanks of all publicists who wish for reliable records by appealing to the Home Secretary to remedy this great evil.

The profession has a right to complain that both the law and the instructions of the Registrar-General are so framed as to almost invite looseness and irregularity in certification. Can anything be more objectionable or unworthy of a public department than the following memorandum from Somerset House on the subject of assistants with reference to registration of the cause of death?

"*Assistants.*—A registered practitioner cannot depute his unregistered assistant to sign *on his behalf* certificates of the cause of death when he himself has been in attendance; but it will be for him to determine in any particular case attended by his assistant, whether or not he can properly take upon himself the responsibility of giving a certificate. On receiving a certificate purporting to be under the hand of a *registered* practitioner, it is no part of the registrar's duty (except he has reason for believing the signature to be a forgery) to raise the question whether the case was at any time attended by such practitioner; the responsibility for the truth of the statements certified rests exclusively upon the certifying practitioner, who is presumed to be the best judge of whether he is in a position to give the certificate or not."

We can see nothing in this memorandum so clearly as a suggestion to general practitioners that if even they do not attend to fatal cases, but leave them to the care of unqualified assistants, they are not precluded from certifying after a fashion the cause of death. We are not speaking of mere abstract evils. We have before us cases in point, one—not in the Black Country—in which an unqualified assistant fills up a certificate of death from placenta prævia, and signs it "*pro* ..... J. P." Still more, in this case the death was registered as "certified." The facts were subsequently elicited at a coroner's inquest. But for the fact that the Coroner was a medical Coroner, we should probably have had no inquest. No wonder that the profession asks what is the

advantage of being registered, and complains of the fact that medical work is done by unqualified persons, either alone or acting under the protection of persons registered. In either case the worth of column 6 is very seriously compromised. Whatever the complacency with which Mr. SCLATER-BOOTH regards column 6, with its motley contributions from bone-setters, herbalists, and midwives of the Mrs. Gamp type, it cannot be accepted as satisfactory by the medical profession, or by any men who take an interest in the trustworthiness of public records.

THE experiments of Mr. LISTER effectually disposed of all theories which ascribed the coagulation of the blood to the escape of a gas. He showed that blood might be poured through the air several times, so as to afford the freest opportunity for the escape of any gas, and yet remain uncoagulated for hours, provided it were kept in vessels formed of natural membranes. M. GLÉNARD, in some experiments published last summer, corroborated very fully LISTER'S results; and asserted, in further disproof of any influence of gases on the coagulation, that blood enclosed in excised vessels might be plunged into any gas, including carbonic acid, without coagulation occurring. MM. MATHIEU and URBAIN, who a year ago advocated the opinion that the presence of carbonic acid was the immediate cause of the coagulation, have recently communicated to the Académie des Sciences some experiments in support of their preceding observation, and in opposition to GLÉNARD'S results. They urge that the influence of the normal vascular wall is relative and not absolute, and that it is less than M. GLÉNARD supposes. It may be remarked that LISTER, at any rate, maintains that the influence of the normal wall of a vessel is absolute in preventing coagulation; but that it is impossible to keep any part of a vessel in a perfectly healthy natural state under the conditions of an experiment; and that, in proportion to the change thus occasioned, the effect of the vessel is relative and not absolute. MM. MATHIEU and URBAIN go on to point out that coagulation may occur in the ligatured vessel of a living animal. They advocate, further, the influence of the presence of carbonic acid in causing coagulation, on the ground—first, that the coagulation occurs when the escape of carbonic acid is hindered by immersing portions of bloodvessels full of blood in a quantity of oil, or by placing them in an atmosphere of carbonic acid. Secondly, they repeat that a current of carbonic-acid gas, passed through uncoagulated blood, determines the immediate formation of fibrinous clots, little coloured, similar to those obtained by whipping the blood; while, on the other hand, a current of air of hydrogen or of carbonic oxide, leaves it fluid. They affirm that if the carotid artery or jugular vein of a dog, filled with blood, be suspended in a vessel of carbonic-acid gas, coagulation will take place in three-quarters of an hour. They found that the vein of an ass, treated in a similar way, presented coagulation of the blood within it after two hours' immersion; while the blood, in a similar segment suspended in the air, was still fluid after the same time. Beneath oil, the coagulation was complete in three hours. Tubes composed of the intestines of birds yielded similar results. These conclusions are very different from those of M. GLÉNARD, who found that, under identical circumstances, the blood was uncoagulated even after twenty hours. MM. MATHIEU and URBAIN admit, however, the occasional slowness of the coagulation of blood enclosed within an animal membrane and exposed to the action of an atmosphere of carbonic-acid gas. The only explanation for this which they can offer is, that carbonic-acid gas passes through the organic membrane of a vessel containing fluid less readily from without inwards than from within outwards; and, further, that the blood possesses the power of absorbing a considerable quantity of this gas. In proof of the former assertion, they took two identical bladders composed of organic membrane; one containing distilled water from which all gas had been removed, the other containing the same volume of water saturated with carbonic acid. The former was placed in an atmosphere of carbonic acid; the latter left exposed to the air. After half an hour the quantity of carbonic acid contained in each bladder was determined; and it was found that five cubic centimetres of carbonic acid had passed into the one, and fifteen cubic centimetres had passed out of the other. This assumes that the constant transudation of water through the wall of the bladder containing it so hinders the entrance of carbonic acid as to account for much of the difference in the two cases. In proof of the absorptive power of blood for carbonic-acid gas, they found that 100 cubic centimetres of defibrinated blood absorbed 220 cubic centimetres of carbonic-acid gas; while 100 cubic centimetres of serum absorbed 130 of carbonic-acid gas. Thus the blood-corpuscles seem, in 100 cubic centimetres of blood, able to hold more than 90 cubic centimetres of carbonic acid. Previous researches had, however, shown them that it was only the carbonic acid contained in the plasma which effected the coagulation; and hence another element in the retardation of the coagulation, since it cannot occur in blood exposed to carbonic acid until the affinity of the corpuscles for the gas is satisfied.

M. GLÉNARD, in a reply communicated a short time ago to the Académie by M. BERNARD, reasserts his former position, that the influence of the vessels in preventing coagulation is paramount and irrespective of any relation to carbonic acid. Blood may be dried slowly in an isolated vessel without coagulation, and afterwards rendered fluid by moisture, still without coagulation. He further suspended by one end the segment of a vessel containing blood. The corpuscles soon sank to the bottom, leaving a colourless supernatant plasma. He opened the lower end, and allowed the lower portion, containing the corpuscles, to escape. He then replaced the corpuscles thus removed by pure carbonic acid. The plasma was thus brought into immediate contact with a large excess of carbonic acid; and there could be no question of absorption by the corpuscles or osmosis through a membrane. The two were thoroughly mixed, but not a trace of coagulum formed in the vessel.

This experiment appears to us, as it did to M. CHEVREUL, conclusive. It disposes effectually of the theory that the coagulation of the blood has any relation to the presence of carbonic acid. The experiments of MM. MATHIEU and URBAIN still remain to be explained, and are certainly worthy of careful repetition. We would suggest that some of their results may be explained by the influence on the

wall of the vessel of the carbonic-acid gas or of the oil in which it was suspended. The outer wall of a vessel exposed to an atmosphere of the gas may undergo changes which, extending to its inner wall, render the latter capable of determining the coagulation of the blood. In the experiment of M. GLÉNARD this may not have taken place, because the gas, well mixed with liquid, came in contact with the inner surface, to which the mixture would be less foreign. It is with satisfaction that we find the experiments and conclusions of our own countryman thus fully corroborated, and we would only remark that the observations of LISTER seem to have received less attention from the French experimenters than they deserve.

THE decision of the Council of the Royal College of Surgeons of England to accept the certificates of study presented by Miss JEX-BLAKE, Miss EDITH PECHEY, and Mrs. THORNE has, for the present, settled a question that had long puzzled medical as well as political and social economists. The ladies referred to have, during the past four or five years, struggled in a manner not undeserving of praise to secure to women the right to engage legally in the practice of Medicine, or at least in that part of it that comprises the diseases and ailments of their own sex. In spite of every difficulty they have persevered and have now the satisfaction of hailing an approaching victory.

After the female medical students were defeated at Edinburgh, and driven from the school which at one time seemed so favourable to their solicitations, they and their admirers established in London a School of Medicine for Women, which has now nearly completed its second winter session. But, although the students of this school do not lack teachers, they have been greatly inconvenienced, and to some extent thwarted, by the want of a hospital in which to carry on and complete their more practical and clinical studies. Nor has this difficulty, as far as we know, yet been overcome. But, notwithstanding this, the Committee appointed by the Council of the College of Surgeons to examine and report on the certificates presented by the above-mentioned ladies who come from this school, deemed them satisfactory, although not altogether in order. On what regulation this decision is founded we have failed to discover. The regulations, as they at present stand, direct that the curriculum of study for the certificate in Midwifery shall be the same as that required for the diploma of Member; provided that the candidates do not already possess a degree or diploma from some legally-constituted College or University recognised by the College of Surgeons. How the difficulty that arises from the want of a hospital has been got over we have yet to learn. Without wishing to increase the difficulties that women who desire to obtain a legal qualification to practise midwifery have to contend with already, it would have been more satisfactory to the members of the profession and to the women themselves to have had the question properly discussed and settled authoritatively and for ever. The action of the Council of the College of Surgeons has been clumsy and blundering ever since they obtained the opinion of their legal advisers that they had no power to refuse to admit women to the examination for the certificate in Midwifery if they had otherwise qualified themselves by complying with the regulations laid down by the Council. Now, they accept unquestioned almost any proposal without apparently taking the trouble to ascertain more clearly and accurately their actual position. It will be remembered that it was a similar headlong reckless course that led the University of Edinburgh into the errors of which it afterwards so bitterly repented; and if the Council of the College of Surgeons are not more discreet and circumspect, they may soon find they will have to encounter difficulties now undreamt of. If the Council had taken the case to a court of law it would have been definitely settled once for all. As it is, they are acting only on the advice of the Standing Counsel—the same, presumably, who by their conflicting and changing advice led them into the inconsistencies of conduct and action which were so painfully manifested in all the Council did respecting the Conjoint Examination Scheme.

Annotations.

"Ne quid nimis."

THE EAGLEY EPIDEMIC.

No new light has been thrown, since our last issue, upon the alarming outbreak of typhoid fever in Lancashire. The extent of the epidemic is even greater than was at first thought. The number of sufferers in Bolton is larger than the earlier accounts stated, not less than 70 persons being ill with it at the present time. The whole number affected at Bolton and Eagley is more than 190. Several fresh deaths have occurred, but the mortality is at present low in comparison with the number attacked and the violence of the outbreak at its commencement. All the persons attacked, it is said, both at Eagley and Bolton, partook of the contaminated milk.

The early recognition of these "milk" epidemics of typhoid fever marks a very important step in sanitary science. Their number during the last few years is alarming, but it would probably be a great mistake to infer that their occurrence has been limited to the period during which they have been recognised. The same conditions must have been frequently in existence in the past, and many an outbreak of fever has probably been produced in the same manner, the mechanism of its spread being unsuspected. It must, however, be remembered, on the other hand, that the changes in the milk trade of recent years have led no doubt to an increased liability to the contamination of milk by water containing morbid material. Milk is carried to large towns from a distance far more extensively now than was the case twenty years ago. The chances of dangerous impurities is much greater in rural homesteads than in the old London cowsheds, in which the water was derived from the common water-supplies of the metropolis. Moreover, the facilities for transit have increased immensely the value of milk in rural districts, and the temptation to augment the quantity by the readiest and simplest means has increased in proportion. It is a melancholy conclusion from recent events that, in spite of all our efforts to repress adulteration and ensure pure milk, if we wish protection from disease, we must look, not to the quality of the milk, but to the quality of the water at the place from which our milk comes, or at which the greatest temptation to dilute it may exist.

The knowledge of the mechanism by which the disease is spread in outbreaks such as that at Eagley bears immediate fruit in the prompt arrest of the dissemination of

the poison. But it should not stop here. The way by which such outbreaks may be prevented is as clear as is the way in which they may be arrested. The sanitary arrangements, the source of the water-supply, and its character, at every dairy must be under the constant observation of a proper sanitary officer—the medical officer of health for the district, for instance, where he is sufficiently independent. Every dairyman should be compelled to take out a licence, and the granting or renewal of the licence should be subject to periodical reports on the condition of the farm. The outbreak at Eagley, one of the gravest of the kind, shows in the clearest manner that there must be no delay and no hesitation. The condition of affairs at Eagley to-day may be the state of another place to-morrow, and where the way of prevention is clear, negligence is culpable.

PATENT POISONS.

THE preservation of life from the various accidents which may cut it short is generally admitted in civilised countries to be one of the chief objects of governmental and legal interference with, and regulation of private enterprises. There is more than one country, however, in which Government protection and patronage are secured for the administration of powerful poisons to one of the most important classes of the community, with the result of destroying annually a large number of lives. The manufacturers of the poisonous compound do all in their power to extend its employment, since its use is to them a source of considerable profit. So far from the Government restraining the sale of such dangerous substances, they pocket a royalty upon each bottle of it which is sold, and encourage its sale by removing from the manufacturers all liability for the deaths which it may cause.

It is hardly credible, considering the enthusiasm which is excited by the various life-preserving enterprises, that one country in which life-destroying enterprise is thus encouraged is our own. Yet so it is, and the poisons thus sold for indiscriminate use are not one, but many. We restrain the open and free sale of poisons; we patronise their disguised distribution if they pay a duty to the Government. Scores of children die every year in this country by the administration of narcotic poisons passing as "soothing syrups," "infant preservatives," and other delusive names, under which, by Government protection, they are sold. Opium is contained in most of them in dangerous quantity. Opium or morphia may not be sold freely by chemists to their customers, but patent medicines containing opium may be sold for exclusive and random administration to those who are most susceptible to its influence!

Instances of the evils of the system are occurring daily. A striking example has just been investigated by Dr. Hardwicke as coroner. A child six months old had bronchitis. Not improving, the mother was induced, by a bill given to her, to purchase and administer some "Infants' Preservative," a patent medicine manufactured by Messrs. Atkinson and Barker, of Stockport, near Manchester. On the label it was stated that two teaspoonfuls were to be given at a time. The medicine was given five times, and the child, becoming worse, was seen by Mr. Danford Thomas, who found it narcotised, with pupils contracted to a point, and in that condition it shortly died. The presence of opium was demonstrated by an analysis of the remains of the "Infants' Preservative," and there can be no doubt that the administration of the opium was the immediate cause of death. The verdict of the jury was, that the child's death "was accelerated by narcotic poisoning, the said narcotic being contained in Atkinson and Barker's 'Infants' Preservative' administered to it." We fear that no more direct incrimination of the vendors of these drugs is possible in the present state of the law. A gentleman present at the inquest stated that the makers of the poisonous draughts, Atkinson and Barker, of Stockport, had been sending letters to the registrars all over the kingdom offering them a commission to place bills recommending the "Infants' Preservative" (it would be better termed "child destroyer") into the hands of all informants on occasion of birth registration.

TABLESPOONS AND TEASPOONS.

A CORRESPONDENCE on a subject of great practical importance has recently been going on in the *Pharmaceutical Journal*. Mr. Proctor, of Newcastle-upon-Tyne, has pointed out some striking instances of the inconvenience and danger that may arise from the want of uniformity that at present obtains among medical men respecting the relative proportions of one tablespoonful and half an ounce. Modern tea- and table-spoons are much larger than those employed forty or fifty years ago, so that a tablespoonful should no longer be taken as representing half an ounce, nor a teaspoonful as equivalent to one drachm. As a fact, however, there is a large number of prescribers, who, when they order half an ounce of medicine to be taken, mean by that one tablespoonful, and *vice versâ*, while a few medical men regard half an ounce as equal only to a modern dessertspoonful. It is clear, therefore, that something should be done to ensure a common standard of measurement; and, as teaspoonfuls and tablespoonfuls will doubtless always continue to be most frequently employed for the purposes of dealing out doses of medicine, it would be well, as Mr. Martindale has suggested, to give a higher value to these measures. A tablespoon is now really equal to between five and six drachms, and the teaspoon is capable of holding from eighty to eighty-five drops, while the dessertspoon in present use comes up nearly to half an ounce. In ordering drugs in mixtures, and especially powerful or poisonous ones like strychnine and arsenical solutions, one tablespoonful should be looked upon as equal to six drachms, the dessertspoonful to four drachms, and the teaspoonful to a drachm and a half. A twelve-ounce bottle would, according to this, contain eight doses of two tablespoonfuls each, an eight-ounce bottle five similar doses, and a two-ounce bottle about eleven teaspoonful doses.

EPIDEMIC WHOOPING-COUGH IN LONDON.

THE Registrar-General reports in his last Weekly Return that 130 deaths were referred to whooping-cough in London during the week ending 19th inst., and points out that so large a number of deaths from this disease has not been witnessed in the metropolis in any previous week as far back as 1840. Whooping-cough was exceptionally fatal in London in 1869, 1872, and 1875, the 3232 in the latter year exceeding by 422 the average number in the ten years 1865–74. During the first three weeks of February the fatality of the disease showed a marked increase, resulting in 109, 100, and 130 deaths respectively. The Registrar-General tells us that but 6 of the 130 deaths in the last week under notice occurred in the families of the affluent classes, and that nearly the whole of the other 125 were of children of the working classes. Dr. Cortis has recently called attention to the necessity for the isolation of whooping-cough patients in a warm temperature during the first twenty-one days of attack, and is now urging upon the Metropolitan Asylums Board the consideration whether a portion of their hospital accommodation might not be usefully employed in the treatment of this disease. It is evident that the fatality

of the disease is principally confined to those classes in which isolation and careful treatment of patients are, from the nature of their living accommodation, simply impossible. Hospital treatment of whooping-cough, instead of the want of treatment from which the children of the poorer classes die in such large numbers, would doubtlessly decrease the fatality of the disease. The great difficulty, however, which stands in the way of its adoption, is the large proportion of purely infant sufferers, who could scarcely be separated from their mothers. The mean age at death of all the males and females who died in England and Wales from whooping-cough during the twenty-five years 1848–72 was 2·7 years; in the case of measles it was 3·1; of scarlet fever 5·1; and of small-pox 13·5 years. The 130 deaths from whooping-cough in London during the week ending 19th inst., included 45 of infants under one year of age.

COMPULSORY LOCAL SELF-GOVERNMENT.

IT appears that the Local Government Board has not hesitated to take the preliminary step for carrying out Mr. Doyle's (its inspector's) threat of compelling the Wrexham local authority to enter into combination with other sanitary authorities of Denbighshire for the formation of a united district for the election of a medical officer of health. The Rural Sanitary Authority of the Ruthin Union having represented to the Local Government Board that such combination would be advantageous, the Board has taken action thereupon, and given notice to the other sanitary authorities of Denbighshire that it would proceed to issue an order, after the expiration of twenty-eight days, uniting them for the purpose named. The Wrexham Council has made arrangements for a conference to be held between their Town Clerk and a number of county gentlemen, to discuss the course to be adopted with regard to this intimation of the Local Government Board, and it is probable that counsel's opinion will be taken in the matter. If the Local Government Board is so satisfied with its administrative arrangements regarding combined districts for medical officers of health, as to substitute compulsion for local self-government, surely it would be well for some information on the subject to be made public. At any rate it would be well if some member of the House of Commons would put a question to the Local Government Board as to the compulsory regulation of local self-government, which would seem to be about to become a feature of that Board's administration.

QUIET STREETS.

Now that the London ratepayers in all parts of the metropolis have made acquaintance with the cases of wood or asphalte which are scattered about in our thoroughfares, there can be no doubt that they will be ready to pay anything in reason for a quiet life, and that before long noiseless pavement of some form or another will have become general. While, however, the several vestries are making up their minds as to the form of pavement to be used, and while the old thoroughfares are wearing out, we trust that the streets surrounding our hospitals will be considered to have a first claim. Miss Bentinck has, in the most generous manner, given £1000 towards putting a wooden pavement in front of the Middlesex Hospital, and so good an appeal has been made on behalf of St. George's that in all probability a similar blessing will before long be conferred on the patients of that hospital. We plead, however, not only for hospital patients, but on behalf of the inhabitants of so-called "quiet streets," which are paved with macadam, and which, when it becomes worn, is perhaps the noisiest of all pavements. We should advise those who have never been in the backwoods of America, and have never experienced the pleasures of a "corduroy" road, to take a four-wheeled cab, and drive down some of our West-end macadamised thoroughfares, and we can assure them that the bumps and jars which they will experience are so severe and so incessant, that they will only be able to bless the vestry in a succession of tremendous jerks. The initial cost of quiet pavement is no doubt great, but quietness is a thing well worth paying for; and when we consider the saving of wear and tear which will be effected, and the time which will be saved by increase of speed, we are by no means sure that it would not be economical in the end.

THE DENTAL PROFESSION.

WE are pleased to find that the Council of the College of Surgeons has resolved that candidates for the Dental diploma shall, after October, 1877, be compelled to pass a preliminary examination in Arts, similar to that required for the Membership. The measure will be the means of bringing forward a better class of men for the special degree, while doubtless many of the applicants will decide on becoming fully qualified members of the medical profession.

The movement to form an Association of Surgeons practising dentistry, to which we recently alluded, appears to be making satisfactory progress in spite of the hostility evinced in some quarters. The motives of the promoters of the Association appear to us to be above suspicion. There is an honest intention to improve the status of those practising the specialty of dentistry, which must in time disarm the very pronounced opposition now shown. A prime objection urged against the new Association is, that it is antagonistic to the Odontological Society; but as the latter claims to be a scientific, and not a political, body, we fail to see the cogency of the arguments used by the opposition as represented in the special journals. There are many reasons against making the Odontological Society a theatre for the discussion of topics like those which it would be the object of the new association to ventilate. The classes from which its members are drawn present so many different interests and diverse sympathies that there are innumerable subjects which could not be brought under its consideration, nor, indeed, by its very constitution would it be its province to consider them. The laxity of the rules which regulate admission into the Odontological Society precludes the possibility of obtaining there a tribunal which could justly determine questions of etiquette and ethics. We consider the formation of the Association a step in the right direction, and are assured that some of those who now oppose it will in time acknowledge that it is beneficial to the social and professional interests of the dental profession.

WATER-SUPPLY OF BAGSHOT.

WE have on more than one occasion noticed the very unsatisfactory sanitary arrangements of Bagshot, a village which, though singularly favoured by nature, seems singularly unfortunate in local government. The water-supply is of a most dangerous kind, and we are not surprised to hear that enteric fever breaks out periodically. It consists of two or three small streams which run through the village, and a few wells, some of them evidently polluted. To remedy this evil it is proposed to store the water before it enters the village, and deliver it to the houses in pipes. This valuable reform, the expense of which would be very small, is opposed by the Windlesham vestry as being unnecessary. It appears that Professor Heaton of Charing-cross Hospital has analysed the suspected water for the

Windlesham vestry, and has reported it to be of satisfactory quality. But we are not informed whence the samples which were analysed were taken. If they were taken at points where contamination could not have occurred, the evidence founded on them falls to the ground. And even if the samples were fairly taken their purity proves but little, for water running in open streams close to houses is liable at any time to receive the most dangerous kind of pollution, and should always be avoided if any alternative is open.

We can scarcely believe that the Chertsey Union will listen to the short-sighted petition of the Windlesham vestry. It is undoubtedly the duty of the local sanitary authority to do all in its power to assist so beneficial an improvement. The danger at present is urgent, and should be averted without a day's unnecessary delay. It would be unfair to the Chertsey Board to suppose that it will even hesitate in the matter.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY.

THE annual general meeting of this Society will be held at 53, Berners-street, on Wednesday, the 1st proximo, at 8 o'clock in the evening. The following is a list of the officers and other members of the Council nominated for the ensuing year:—President: Sir James Paget, Bart. Vice-presidents: Edward Ballard, M.D.; Richard Payne Cotton, M.D.; Charles Brooke, F.R.S.; John Marshall, F.R.S. Treasurers: William Wegg, M.D.; John Birkett. Secretaries: John Harley, M.D., F.L.S.; John Whitaker Hulke, F.R.S. Librarians: Francis Sibson, M.D., F.R.S.; Timothy Holmes. Other members of Council: Lionel Smith Beale, M.B., F.R.S.; Wilson Fox, M.D., F.R.S.; Edward Headlam Greenhow, M.D., F.R.S.; Graily Hewitt, M.D.; Wm. Ogle, M.D.; Richard Barwell; John Couper; Arthur Ed. Durham; George Gaskoin; Thomas Smith.

Sir James Paget thus enters upon his second year of office, and the vacancy in the post of Surgical Secretary, occasioned by the retirement of Mr. Cooper Forster, is to be filled up by the appointment of Mr. Hulke.

AN EXEMPLARY CORONER.

A DOMESTIC servant lately died at Seacombe after having been delivered of a dead child. She was attended by Mr. W. H. Miller, of Victoria-road, Seacombe, near Wallasey, who performed an operation with instruments. The woman died about two hours and a half after, and was buried, no doubt after being duly registered. In consequence of rumours on the subject, the coroner ordered disinterment, and a post-mortem examination. At the inquest the following remarks are reported:—

"The Coroner explained to the jury that, Mr. Miller not being a certified medical practitioner, his object in holding the inquest was to inquire into the cause of death, and also to protect Her Majesty's subjects from unskilful men. Mr. Miller held some paper from America, but that did not qualify him to practise in this country. Mr. Miller said he had received an authority from Scotland. The Coroner declined to recognise it. After some further remarks, Mr. Miller said he should continue to practise as usual; to which the Coroner replied, that it would then be a question with him whether it would not be his duty to hold an inquest in every case in which he (Mr. Miller) gave a certificate of the cause of death. The present certificate he had given was wrong."

If coroners and registrars could only come to an understanding that in the case of any person dying attended by an unqualified practitioner, the case was to be investigated by a coroner, we should do more to stop irregular practice than in any other way. Registration, amongst other purposes, is surely meant to be a check on those who neglect to procure proper attention for the sick.

SANITARY WORK IN RURAL DISTRICTS.

AT the last monthly meeting of the Metropolitan Health Officers' Association, on 19th inst., Dr. Wilson, the medical officer of health of the combined district of North Warwickshire, read an excellent and essentially practical paper on this important subject. The difficulties which beset sanitation in rural districts, even where sanitary authorities are fully alive to its importance, which is far from being always the case, are now pretty generally known, and consist principally of cottage accommodation inadequate both in amount and quality, the want of a pure and reliable water-supply, and the disposal of sewage without danger to health. It is not easy to say anything that is really new on these subjects, but the practical experience of a man who has had ample opportunity, and is well qualified, to deal with them in all their bearings, is full of interest and instruction. There was an unusually full attendance of the members of the Association, among whom were many medical officers of health of large combined sanitary districts, including Drs. Bayliss and Robinson, of Kent; Dr. Thursfield, of Shropshire; Dr. Woodforde, of Berkshire; and Dr. Alford, of Taunton. An interesting discussion followed the reading of the paper, which was generally acknowledged to be a useful contribution to the literature dealing with rural sanitation.

ACONITE POISONING.

A MOST unfortunate accident occurred at Stepney on the 9th instant, whereby a Mr. McMorrine was killed by the accidental administration of aconite liniment. It appears that the dispenser of the medical man whose patient the deceased was had been ill, and unable to attend to his duties, and that during his absence the bottle containing the aconite liniment had been moved from its usual position. When the dispenser was well enough to return to his duties he, without looking, mistook the aconite bottle for the one which should have been standing in its place, and hence the unfortunate result. The dispenser bore a good character for steadiness and sobriety, was duly qualified, and had been eight years with his present employer. No mention was made of the form of the bottle in which the aconite was kept. It could hardly have been of fluted or coloured glass, or the fatal error could not have arisen. According to the analysis and estimation of Dr. Meymott Tidy, the deceased took one-tenth of a grain of aconitine. Dr. Sutton gave evidence to the effect that, but for the history, he should have concluded that phthisis had been the cause of death, the lungs being in an advanced stage of phthisical degeneration.

SUDDEN DEATH AT LINCOLN.

THE *Lincoln Chronicle* contains an account of an inquest lately held in that city on the body of Mrs. Wilson, who died suddenly during pregnancy, and after about thirty-six hours of indisposition. The certificate furnished by her medical attendant stated the cause of death to be "puerperal convulsion," but the evidence on this point fell through. Deceased had had a paralytic attack in November, 1873, but whether the cause of her death was a recurrence of apoplexy we are unable to say, as no post-mortem was ordered, and the stereotyped "death from natural causes" was allowed to pass for a verdict. The coroner, who is a medical man, subjected the chief medical witness to a somewhat severe cross-examination, but the facts elicited were by no means proportionate to the severity of the process. The ordering of a post-mortem examination would have been far more effectual in throwing light upon the subject, and we trust the coroner will for the future choose this

latter course, and resort as little as possible to the former. We had occasion last week to make some remarks on the verdict of "Died by the visitation of God," and we expressed an opinion that as a verdict it was useless. "Death from natural causes" is scarcely more useful; and when we see a medical coroner, with the assistance of a medical witness and twelve jurymen, coming to so lame and impotent a conclusion, we are inclined to place the fact among the "opprobria medicinæ."

THE ARMY MEDICAL SERVICE.

WE continue to receive various communications as to alleged projects of the Government, but our military medical readers must be content to "wait a little longer," when there will be no need to indulge in prophecy and conjectures, for Mr. Hardy will have to state his policy and intentions in connexion with the Army Estimates. Meanwhile, if, as some of our correspondents seem to expect, the rumoured short-service system is to become a reality, while nothing whatever is done for the existing service, the present feeling of discontent and irritation among medical officers will only be increased. Take one point only. If Mr. Hardy's scheme simply introduces a more highly-paid set of medical officers on short service, without providing anything for accelerating the flow of promotion among those already serving, it is certain to be resented as an injustice to the latter.

TYPHUS IN WHITECHAPEL.

THE latest returns from the Metropolitan Asylums Board show that their two Fever Hospitals contained 43 typhus patients on the 19th inst., against numbers increasing steadily from 2 to 40 in the preceding thirteen weeks. The managers have called the attention of the sanitary authority of Whitechapel to the large number of fever cases that have recently been admitted from that district. It appears that between the 29th January and the 11th February, no fewer than 10 cases of typhus were admitted to the Homerton Fever Hospital from Whitechapel. This outbreak of typhus was noticed by Mr. John Liddle, the medical officer of health for Whitechapel, at the monthly meeting of the Health Officers' Association on Saturday last, and referred to overcrowding and filth, which, under present circumstances, he is comparatively powerless to control.

THE ADMISSION OF "PERSONS" TO THE MIDWIFERY LICENCE OF THE COLLEGE OF SURGEONS.

AT a special meeting of the Metropolitan Branch of the British Medical Association, summoned for Friday, the 3rd March, the position taken by the Council of the College of Surgeons in reference to the practice of obstetrics will be taken into consideration. A special topic of discussion will be the propriety of admitting "persons" to the licence of the College in Midwifery without exacting from them proof of adequate qualification in medicine and surgery. Considering that the practitioners of obstetrics are utterly unrepresented on the Council of the College of Surgeons, it is only right that the Council should be assisted by an expression of the opinions held outside their body.

PORT SANITARY WORK AT CALCUTTA.

IT is evident that sanitary work afloat is advancing in the colonies as well as at home. For some days during last month the largest fleet of men-of-war that has visited the Hooghly for many years was anchored in the port of Calcutta, for there were four frigates, the *Narcissus*, *Doris*, *Topaze*, and *Immortalité*, as well as the *Serapis* and *Osborne*. *The Times* reports "that no man-of-war has ever before lain for any length of time in the Hooghly without an outbreak of cholera on board." It is indeed true that on this occasion two or three cases occurred on the *Serapis*, one of which ended fatally, but the outbreak was checked and stamped out at once, and never attacked the crews of any of the frigates. "For this happy result," proceeds *The Times*, "much credit is due to the energy and improved sanitary arrangements of the port authorities and of their medical officer." We congratulate Dr. W. K. Waller on the great improvement that must have taken place lately in the sanitary condition of this large but hitherto unhealthy port.

THE PATHOLOGY OF LEAD-FACTORY HANDS.

IN the East of London a considerable number of persons are engaged at lead works or factories, including a large proportion of women. The rate of mortality among persons following this employment should be carefully investigated. The Registrar-General frequently calls attention to deaths being clearly referred to this occupation; in his last Weekly Return he says "the death of another female lead-factory hand in East London resulted from lead-poisoning." It would be important and interesting to know what precautions are taken by employers in this branch of manufacture to protect their labourers from its fatal effects on health. Lead works and lucifer-match works should be subject to such a code of regulations as would as far as possible secure the workers from lead-poisoning and phosphoric necrosis, which are now unduly prevalent in East London.

THE TRANSPLANTATION AND IMPLANTATION OF HAIRS.

AN interesting paper on this subject appears in the *Zeitschrift für Biologie* (Band xi. Heft 3), from the pen of Dr. Ernst Schweninger of Munich. He gives the following as the results of his numerous experiments:—First, that hairs that have been recently extracted and to the root of which cell-layers of the root-sheath still remain adherent, if brought into contact with freshly granulating surface, are capable of contracting adhesions with this, and that from this point a process of skinning over may commence, as after cutaneous transplantation. He has further shown that such hair root-sheaths can attach themselves to the iris and continue to grow. The iris therefore constitutes an excellent place for conducting experimental researches of this nature.

THE ARMY ESTIMATES.

WE turned to the Army Estimates, a copy of which has just come to hand, with some interest, to discover whether we could trace any indication of Mr. Hardy's intentions therein; but little or no light is thrown on the subject. Under Vote 4—Medical Establishment and Services—there is a net increase of £13,727, but £5600 of this seems to be owing to the transfer of the pay &c. of surgeons of Militia regiments from Vote 5 to Vote 4. Another item of increase is £1500 for the additional cost of medicines, &c.; and the treatment of lunatics costs £700 more than last year. The Army Hospital Corps apparently represents a total strength of 1544.

THE proceeds of the next concert at the Royal Albert Hall Orchestral Society will, by the consent of the Duke of Edinburgh, be devoted to the benefit of the funds of the London Hospital. The concert is fixed for March 4th, in order to allow of His Royal Highness being personally present for the last time before leaving England.

IN consequence of the very high rate of mortality which prevailed some time ago in Malta, the Government ordered a commission, composed of medical men, to inquire into, and report on, the insanitary causes at work in the place. After six months spent in investigation, the Commission issued a statement embodying the results of their labours. The increased death-rate was attributed—(1) to defective systems of sewerage and drainage; (2) poverty, and the habitual use of food wanting in nutrient principles; (3) overcrowding, of which sufficient illustration was given; (4) intra-mural burials; (5) early and improvident marriages; (6) ignorance of mothers, leading to an excessive waste of infant life. Amended sanitary legislation for the island is urged in the report, while emigration is strongly recommended as an outlet for the teeming population. The Government is exhorted to take these questions into consideration with as little delay as possible.

A COMPLIMENTARY dinner was given to Dr. Stephen H. Ward at the Albion, Aldersgate-street, on Saturday, on the occasion of his resigning the physiciancy of the *Dreadnought* Seamen's Hospital, after twenty years' service, and election to the post of consulting physician to the institution. The chair was occupied by Dr. Ward's old friend and colleague, Dr. Robert Barnes, and Dr. Ralfe and Mr. Johnson Smith were vice-presidents. The company included Mr. E. W. Cooke, R.A., Dr. Hughlings Jackson, the Rev. J. Mothersole (chaplain to the hospital), Dr. Semple, Mr. Fraser, Mr. H. C. Burdett, Dr. Martin, all former members of the *Dreadnought* staff resident in London, and many others. The health of the guest was ably proposed by the chairman, and responded to in a very felicitous manner by Dr. Ward, who, judging from the kind of evening spent, may fitly be called "a man of many friends."

DR. S. BROWNE, in issuing his first annual report of the vital statistics of Belfast, has to record an increased prevalence of zymotic diseases in the town during the past year, although the exact amount could not be ascertained. The same difficulty of determining even approximately the incidence of zymotic disease in a locality is frequently experienced by medical officers of health on this side of the Channel, whose only reliable guide are the death returns. Commenting on the social habits of the inhabitants of Belfast, Dr. Browne points out the very absurd prejudice against hospitals which they entertain, and which often, by not permitting the isolation of the sick, involves them in an epidemic of the disorder. It is also stated that there is a great abuse of tea and tobacco among the working classes.

A DEPUTATION of influential gentlemen, headed by the Earl of Shaftesbury, waited upon the Marquis of Salisbury a few days ago for the purpose of urging upon Government the desirability of restricting the extensive opium traffic in China and the Indian Archipelago. The Marquis of Salisbury, in reply, said he could not hold out any hope of legislation in the direction required. If he were to assign a time when such legislation might be undertaken he would say it would be subsequent to the period when a Bill is passed for preventing the sale of spirits in England.

IT is with sincere regret that we announce the death of Sir George Duncan Gibb, Bart. The deceased gentleman was M.A. and M.D. of M'Gill College, Montreal, and M.R.C.P. London, and for some years held the office of Physician to the Westminster Hospital. He contributed copiously to the medical literature of the day. By his death the profession has lost a very worthy and esteemed member.

SOME time ago public attention was drawn to an outbreak of enteric fever in the Dublin military prison, which was attributed to milk contamination. The medical officer of the prison, in an official report now published, shows that the disease did not follow the round of the milk supply, but must have arisen from a local cause capable of dissemination throughout the building. Examination of the drainage and sewerage of the prison yielded abundant evidence of the presence of such local cause in the untrapped outlet and overflow-pipes leading directly into the drains and choked-up sewers. Immediate action was taken to remedy these defects, and the epidemic ceased. Extensive improvements of the building are now under the consideration of the authorities.

AT a recent meeting of the Kingston Board of Guardians a member of the Visiting Committee called attention to the fact that the workhouse infirmary contained four "raving maniacs," who were seriously disturbing the comfort of the sick poor. The question whether they ought to be removed having been discussed, it was subsequently decided, upon the recommendation of the house-surgeon, to send these noisy lunatics to an asylum. The practice of retaining such lunatics in workhouses is open to the gravest objection, and it is difficult to decide whether its inhumanity is not fully as great towards themselves as to the pauper patients they disturb by their ravings. The necessity for further county lunatic asylum accommodation in Surrey becomes greater every day.

THERE were registered in London last week 2005 deaths —being at the annual rate of 30 per 1000,—including 48 from measles, 40 from scarlet fever, 8 from diphtheria, 130 from whooping-cough, 17 from different forms of fever, 13 from diarrhœa, and 622 referred to diseases of the respiratory organs. The mortality from whooping-cough was greater than in any week since 1840, and it would appear that nearly all the fatal cases of the disorder occurred among children of the labouring classes. The latest returns from Continental cities show annual death-rates of 32 per 1000 in Paris, 44 in Rome, and 46 in Naples. Returns from India exhibit a prevalence of cholera in Calcutta.

A PARLIAMENTARY PAPER just issued shows the number of and other particulars connected with the emigration medical staff of the United Kingdom as at present constituted. From this it appears that there are nine emigration medical officers, three of whom are stationed at Liverpool, and one each at London, Plymouth, Cardiff and Bristol, Glasgow, Londonderry, and Queenstown. The London and Londonderry officers are paid by fees, the scale being at the munificent rate of 20*s.* per 100 (or less) persons examined, or a slight fraction over 2¼*d.* per head. The other inspectors have salaries varying from £300 to £400 a year.

THE Colonial Surgeon-General for British Guiana, Dr. Mauget, has drawn the attention of the Government to the unsatisfactory manner in which persons holding foreign medical qualifications are licensed to practise in the colony. There is no law regulating the granting of these licences, which are given in a haphazard manner without any inquiry being made as to the *bonâ fide* nature of the diploma which the applicant holds. It is suggested that an Act similar to that in force at some other of our colonial possessions should be at once introduced.

IN consequence of the annual meeting of the Royal Medical and Chirurgical Society being held on Wednesday, March 1st, the meeting of the Obstetrical Society is postponed until Wednesday, March 8th.

AFTER an examination of candidates for one of the exhibitions granted by the Worshipful Company of Clothworkers, to be awarded to non-collegiate students for proficiency in physical science, Alexander Scott, educated at the University of Edinburgh, has been recommended to the Company for the exhibition. It is of the annual value of £50, and is tenable for three years.

THE Senate of the University of Cambridge have confirmed the report of the Board of Natural Sciences studies, proposing to give a more prominent and definite place to Human Anatomy in the examination for the Natural Sciences Tripos.

REPORT
OF
The Lancet Commission
ON
LUNATIC ASYLUMS.

CITY OF LONDON ASYLUM.

THE HOUSE AND ARRANGEMENTS.

THIS asylum, which was opened on the 16th of April, 1866, is an elegant building on an elevated site at Stone, about two miles from Dartford, Kent. It is an edifice which promises well on the exterior, not more than two storeys in height, abundantly lighted, and in no respect prison-like or obtrusively eleemosynary. The surrounding prospect is expansive and pleasing. The airing grounds have, under the counsel of the Commissioners, been rendered particularly attractive by taking down the walls of courts originally appropriated for refractory patients, and practically throwing the whole area into a single space, divided only by a low hedge for the two sexes. This plan has certain great advantages, and under proper management is likely to produce the best results. The male and female patients also dine at the same time, at separate tables, in the general and recreation hall, a fine apartment, with admirable acoustic properties. We think this arrangement, always provided the staff of attendants is sufficiently numerous and well organised, eminently humane and salutary. The building, as a whole, is adapted for its purpose—namely, the reception of a limited number of insane patients, among whom a moderate proportion of acute cases may be properly cared for. The number should not exceed 300 for the present dimensions of the building, and it is to be regretted that the Reports speak of 350, while it is apparently in contemplation to extend the building from time to time, so as to render it even more capacious. If this progressive enlargement is forced upon the Committee, we venture to suggest the erection of separate blocks at some distance on the grounds. It is a pity to spoil a useful asylum, structurally capable of doing good work as a hospital, by clumsy addition to its dormitories and day rooms. At present the institution may be easily made to satisfy all the actual requirements. Meanwhile a very little more of the "piecing-out" already attempted will convert it into an asylum open to the most serious objections. It exhibits unmistakable tokens of the wrong-headedness which seems to characterise the designers and builders of asylums generally. The staircases are cramped and draughty; the corridors are meagre, and would be oppressive were it not for the large open style of window adopted. It is strange architects and committees cannot be induced to perceive the folly of constructing narrow, cold, corner, stone staircases in asylums everywhere. Why not connect the levels with open, central, and pleasant flights of wooden stairs? The result would be an immense gain in comfort and safety, with scarcely any loss of space, if intelligently planned and located. This is a point of great moment and interest, of which more in its place hereafter.

We have said that the asylum is capable of being made all that it need be. But one great reform must be carried out before this can be accomplished: a change in the committee-room. Something to dethrone the spirit of parsimony. The promise of the kitchen, a baronial-looking hall, must be fulfilled in the general arrangements. It appears strange, and probably this is the only institution in respect to which it would be possible, to charge a representative committee of the City of London with a policy of cheese-paring. Unfortunately, it is evident at every turn in this institution, and considering the class of sufferers it is designed to benefit, and the nature of the establishment, such a policy shows to the least possible advantage. In a word, it is inexcusable. We write strongly, not on account of the magnitude of the need, but the singular littleness of the resolve not to supply it, or the hesitation to at once discharge that duty. For example, it will astonish everybody who knows the wisdom, the enterprise, and the liberality of the Corporation of the City of London, to hear that the asylum has no detached hospital block to be used in case of epidemic disease, or for the separate housing of convalescent patients. Looking to the general character of the building, this omission is most striking. We warmly counsel the Committee to at once wipe out the reproach. Again, the clothing of the patients is discreditably worn and shabby. Instead of being attired in decent and respectable garb of varied colour and material, an example of generous kindliness to other institutions, we found the lunatics of the City of London in worse plight as to dress, on both sides, than those in almost any other of the asylums we have yet visited. Making the fullest allowance for the destructive propensities of many cases, this evil is still unaccountable. The gowns of the women and the coats and trousers of the men were torn and dirty-looking—we do not say actually "dirty," but dirty-looking—to a degree scarcely conceivable, arguing from Guildhall to Dartford, either on the line of compassion or true economy. The same parsimony—it is an ugly word, but we know no other that so well conveys our meaning—comes out in the matters of furnishing and fitting. We regret to differ from the Commissioners entirely as to the adequacy of the provision for washing patients. The basins, towels, brushes, combs, and appliances generally are by no means sufficient in number or in good condition. The sinks in the ward sculleries are old and ill-constructed. They cannot possibly be kept clean. The urinal arrangements are in some wards disgraceful. We should have thought that a cursory glance at the wet flooring in some of the scullery and urinal rooms—a most unseemly association—would have sufficed to convince the Committee that the cheapest plan must be to alter the whole arrangements. We commend the question of washing appliances and convenience for patients to the attention of the Committee, and we think the Commissioners will do wisely to look to that matter more narrowly, here and elsewhere, at their next inspection. Then, again, the gas-fittings throughout are of a common class, with exceptions in favour of a few here and there, and of the worst possible construction. Cross-arm pendants should nowhere be permitted in asylums, and projecting bracket-arms are scarcely less objectionable. It may be said no accident has yet occurred. But a suicidal patient may at any moment attempt hanging to the suggestive gallows-tree; or, what is more possible, an excited or mischievous inmate may pull down one of the tempting cross-arms, and the resulting escape of gas may be productive of much annoyance, if not danger. The floor-covering—where there is any—is also of poor quality and in bad condition. Other matters of detail require such attention as a Committee of the greatest and most liberal of corporations ought undoubtedly to bestow on an institution so worthy of its sympathy. There is too much of outside show at Stone; the internal arrangements should be worked up to the level of the pleasing windows, with the beautifully white blinds, so home-like and attractive. It would also be well if more

money were expended upon the farm and agricultural buildings. The place generally is too bare for its character and guardianship. In one respect the Committee have shown rare prudence. Whereas many other asylums live from hand to mouth, dependent upon a single engine for all their work, the City of London has one in reserve, so that in the contingency of a break-down the institution would neither be deprived of its water-supply nor in other sanitary respects be brought to a standstill.

The arrangements for the care of patients appear to be good. The medical superintendent is supreme, which we hold to be a point of initial and crowning importance. The attendants are in the proportion of about one to ten patients, and they seem careful of their personal duties. Many of the patients are provided with beds of particularly good construction, the mattress or palliasse being replaced by an endless band of broad webbing, stretched, with a slight depression at the feet, on two rollers in such a way that it can be tightened. This method of fitting makes the iron bedstead as comfortable as one of wood, and deserves attention. The wards are rendered cheerful by a tolerably liberal supply of pictures and appliances for amusement, and by many aviaries. The patients appear contented, with an exception here and there, particularly on the men's side, where a doubtful case or two clamour for discharge. So far as the *régime* may be inferred from appearances, it is mild and considerate. We are inclined to regard this point with the more jealousy because the dimensions of this asylum clearly make it possible to treat the cases directly and personally; and if our theory of mental treatment be well-grounded, the proportion of cures—on *curable* cases, be it remembered, for no excellence of management can produce "recoveries" from the incurable—should be large. The dietary is generous. There are associated amusements for the patients. The working parties are not so large as they might be, but this may be due a certain lack of energy we fancied discernible in the manner of the attendants generally. Attendants should never drive, but lure patients to busy themselves, by example and working with them, not standing by as taskmasters. The inmates evidently enjoy the grounds, and walks are taken under proper *surveillance* in the neighbourhood. The charge is somewhat higher than elsewhere, but we trust the Committee will not be so ill-advised as to seek to cut it down. They must spend money, not spare it. At the close of 1874 the rate of maintenance per head was 14s. The ventilation and warming of the building are well cared for; and the provisions against fire, so far as such arrangements at an institution of the class can be relied upon, appear to be ample and organised. There is a small burying-ground attached to the asylum, but we were sorry to see the record on the head-crosses by number instead of name. There are two sides to the question, but it seems a pity to adopt so prison-like a practice.

TREATMENT.

We have not a great deal to say about the treatment at this asylum, in our present report. It has not the excuse of numbers for any lack of scientific efficiency. It should be direct and individual. The medical superintendent exercises a wise discretion in keeping precise records of his treatment and the progress of each patient with his own hand until so long a period has elapsed as shall suffice to prove the case chronic, if not curable. This is a judicious system, and will assuredly tell well in the result. The City of London Asylum should, looking to its size, be second to none in point of remedial character and excellence. In the proper place we hope to illustrate the topic of treatment with cases, but we may here mention that Dr. Jepson has had some striking instances of the success with which personal influences, purely moral, essentially kind, and in no sense mechanical or even manual, have triumphed over violent excitement. It is only in a small asylum that this potent remedy of the sane will, working quietly, patiently, and directly, can be brought to bear on individual cases, in a manner satisfactory to the psychologist. Nevertheless, "seclusion" is in vogue, as the following table will show, but chiefly for epileptic excitement.

Year.	Cases.	Instances.
1866	16	41
1867	34	67
1868	22	57
1869	14	21
1870	14	24
1871	8	12
1872	4	4
1873	3	3
1874	2	2
	117	231

The general health of patients receives full attention. We trust the mental condition of each inmate and the specific treatment desirable to cure the disease, or to ameliorate its distressing symptoms, are the primary objects of concern. We repeat, the psychological work done at the City of London Asylum should be conspicuous for its scientific quality and its curative results. The institution offers a field of rare value for clinical study, research, and remedial practice. We are glad to find that, as might be expected, restraint is almost unknown.

RESULTS.

The "curable" cases have borne the gross proportion of 21·77 to the total of admissions. This is the smallest we have yet met, and may have something to do with the circumstance that the mean of "cures" upon "curable cases" has been only, as yet, 35·31. On the "admissions," the "recoveries" have been 24·31. General paralysis accounts

City of London Asylum.

Year.	Cases admitted.				Cases discharged.				Cases remaining on Dec. 31st.		Average number resident.	Analysis of recoveries.				Analysis of deaths.						Casualties reported.
	Total number.	Transferred from other asylums.	Readmitted.	Deemed curable.	Recovered.	Relieved.	Not improved.	Died.	Total number.	Deemed curable.		Proportion per cent. on admissions.	Proportion per cent. on cases deemed curable.†	Proportion per cent. on average number resident.	Number, within six months of admission.	Proportion per cent. on admissions.	Proportion per cent. on average number resident.	Immediate cause: General Paralysis.	Average age at death.	Number, within six months of admission.	By suicide or accident.	
1865*	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
1866	220	...	...	29	2	2	1	3	212	27	169	0·90	6·89	1·25	2	1·36	1·88	...	...	3	1	...
1867	114	...	2	27	25	2	7	22	270	20	253	21·9	46·29	9·88	11	19·29	8·69	9	50	8	1	...
1868	107	...	6	13	14	3	73	16	271	28	271	13·08	33·33	5·16	6	14·95	5·9	4	52	6	...	...
1869	51	4	5	11	14	4	15	23	266	25	271	27·47	51·89	5·16	4	45·09	8·15	7	48	7	1	...
1870	51	8	4	23	15	...	18	19	285	33	285	29·10	71·28	5·96	5	37·25	7·14	8	45	3	...	...
1871	62	30	9	9	22	6	22	21	275	20	269	26·8	53·33	8·17	6	25·60	7·79	8	50	5	...	...
1872	44	7	5	20	18	3	4	13	284	24	283	36·36	60·00	5·65	6	29·54	4·57	1	35	3	...	...
1873	38	4	1	3	9	3	7	17	286	12	285	23·68	33·33	3·15	1	44·73	5·96	4	43	5	...	...
1874	37	...	3	27	15	5	3	14	286	24	286	40·54	29·46	5·24	4	37·83	4·87	5	51	3	...	...
...	744	...	35	162	132	27	160	143	...	...	280	24·31	35·31	5·48	47	28·29	...	46	...	42	3	...

* This Asylum was opened on the 18th of April, 1866.

† This percentage is upon the number of cases "deemed curable" among those remaining on Dec. 31st of the previous year (11th column), and of cases "deemed curable" among those admitted during the current year (6th column).

for 46 out of 148 deaths, or 31·08. The mean percentage of deaths upon admissions is 28·29. Dr. Octavius Jepson, the medical superintendent, and Mr. Whitfield Perkins, the assistant medical officer, have our best thanks for great pains and courtesy.

[*Corrections for the Report on Wandsworth Asylum*, Jan. 22nd, 1876.—Attention has been called to the fact that the following sentence under the heading "The House and Arrangements" seems to convey an impression somewhat contradictory of the remarks offered upon the same topic in our report on Brookwood:—"The effect of drafting quiet cases to such places as Brookwood ..... is to waste power and opportunity, at the same time leaving the wards of an asylum like Wandsworth crowded with excitable cases." We certainly did not mean to imply that Brookwood Asylum contained no excitable cases; on the contrary, we drew special notice to the circumstance that many turbulent patients were there treated in the wards with great success and curative advantage, instead of being placed in "seclusion." Nor do we think the old buildings at Brookwood superior to those at Wandsworth. It was the new buildings at the more modern asylum we commended, and it is impossible not to perceive that the construction and arrangements which offer the greatest facilities for treating insanity should be utilised for the cure of recent and curable cases. Meanwhile, the success of non-restraint at Brookwood is in no sense due to a small proportion of unmanageable patients. The facts, as set out in the report on Brookwood, tell all the other way. In stating the charge per head of patients at Wandsworth we put down the "actual cost" in 1874—*i.e.*, 9*s.* 7*d.* The "charge" was 10*s.* 6*d.* Under "Results" we gave the proportion of deaths from "general paralysis" upon a total of 665 deaths, omitting the 99 which occurred in 1871. The total should have been 754, and the percentage of deaths from general paralysis 22·94.

THE METHODS OF WATER ANALYSIS.

ONE of the greatest difficulties which lie in the way of a settlement of the important national question of water-supply is the difference of opinion which has hitherto existed among chemists with regard to the estimation of organic matter in water. There are two rival methods for this estimation, each of which has been in use for some years, and each of which has been extensively tested. One is the method of Frankland and Armstrong, which gives the organic carbon and nitrogen of the water; the other that of Wanklyn and Chapman, which gives a quantity of ammonia supposed to bear some constant proportion to the organic matter. The former method has been employed in the very numerous analyses executed for the Rivers' Pollution Commission, and for the periodical reports published by the Registrar-General, and also by a certain number of independent chemists. The latter has been a more general favourite, and is at the present time employed by the great majority of water analysts. Dr. Letheby, and, we believe, no one else, continues to use the old permanganate process, and (in the case of the London waters) to calculate the organic matter by multiplying the permanganate indication by 8; but as the futility of this process and the sheer absurdity of the calculations founded on it have long been abundantly demonstrated, it cannot be reckoned seriously among methods of water analysis.

For some time past the controversy as to the respective merits of the two methods to which we have referred has slumbered, but it has recently been revived, only, we hope, to be finally extinguished, by a lecture delivered by Dr. Frankland on the 17th inst. to the Fellows of the Chemical Society. Eight years ago Dr. Frankland described his process, then new, in a similar lecture, and he now, after eight years of constant working, states the results of his experience, the improvements he has adopted, and the general conclusions to which he has been led. The lecture will be followed by a full discussion, but with the exception of a short reply by Mr. Wanklyn, this discussion stands adjourned until the next meeting.

The matter in dispute has often been argued in these pages. Both methods have been fully described, and the respective advantages of each pointed out. Wanklyn's has the great merit of simplicity. It requires but little practice, and no complex or expensive apparatus. It is, moreover, rapid, and in short, if it were but trustworthy, it would leave little to desire. Frankland's, on the contrary, requires considerable skill, and somewhat costly appliances, and would give very fallacious results if badly worked. But then, if difficult, it is satisfactory. It really gives comparable results, and tells us something of the organic matter of the water, though not all we should like to know; while Wanklyn's method gives us at the best an unknown fraction of the whole. It is objected by Mr. Wanklyn that in Frankland's method the actual errors of experiment are greater in some cases than the quantities to be determined. But this statement is an "actual error" of Mr. Wanklyn's. Many careful trial experiments have proved the reverse, and a study of the published analyses of the metropolitan waters for the last few years affords a most complete refutation to the objection. Not only are the results concordant and probable in themselves, but they agree so well with the fluctuations of flow and the accidents of supply that it is impossible for anyone not strongly prejudiced to doubt of their accuracy. The diagrams shown at the lecture, enlarged from those in the last Rivers' Pollution report, brought out these agreements with singular force, and Dr. Frankland was perfectly justified in pointing to them as the strongest evidence of the value of his method.

We by no means wish to throw total discredit on the so-called ammonia method. It is a useful qualitative process, and, like many other qualitative processes, admits of a certain amount of comparison. It is impossible to infer the actual quantity of organic matter from its indications, and it is impossible, with any certainty, to make a quantitative comparison between different waters. But simple processes are all that are possible in many cases. The medical officer of health in a country district can hardly be expected to make a very elaborate analysis of the water of every cottage-well, and he cannot shut up the well without some analysis. In such cases qualitative tests, in addition to the total solid, chlorine and nitric acid determinations, which are easy, must decide, and the ammonia process occupies, we think, a useful place among them.

This is all we can admit. The two methods ought not, we are convinced, to be played on the same level of scientific accuracy, and we trust that the progress of sanitary improvement will no longer be delayed by any such contention. The obstructives have already gained too much advantage by the controversy. Its fruit has been shown in recent letters in *The Times*, in which it was argued or implied that nothing could or should be done towards the improvement of our water-supply because "doctors disagreed" as to the nature and significance of the contamination.

THE OBSTETRICAL SOCIETY AND THE LICENCE IN MIDWIFERY OF THE COLLEGE OF SURGEONS.

AT a special meeting of the Council of the Obstetrical Society of London, held on February 10th, 1876, the following resolutions were passed, and subsequently forwarded to the Council of the Royal College of Surgeons of England:—

1. "That obstetric science is an integral part of medicine, and cannot be taught or practised with advantage to the community apart from that full degree of knowledge and skill in medicine and surgery which is held to be essential for the safe practice of the healing art.

2. "That the Council of the Obstetrical Society of London learn with regret that the Royal College of Surgeons of England are legally required to admit persons to examination for the Midwifery certificate who are not possessed of any other medical qualification, and they beg leave to represent to the College how injurious to the general interests of the public and the profession would be the admission of persons

to the Medical Register so imperfectly qualified for medical practice."

At the same special meeting, the following resolution was passed, and has been since forwarded to the General Medical Council:—

"The Council of the Obstetrical Society of London beg respectfully to call the attention of the General Medical Council to the fact that persons possessing a certificate to practise midwifery from a corporation recognised under the Medical Act, can claim to be registered as practitioners, without any other qualification; and to point out to the Council how injurious to the interests of the public and the profession will be the admission of persons to the Register so imperfectly qualified for medical practice."

THE MEETING OF THE BRITISH MEDICAL ASSOCIATION, 1876.

A MEETING, convened by circular, was held at the Pavilion, Brighton, on Tuesday, Feb. 22nd, to consider and report to the Arrangement Committee in London on the subjects in the accompanying agenda; the chair being taken by Dr. Kebbell, who read a letter from Sir Cordy Burrows, regretting his absence through ill-health.

Dr. Hall proposed, and Mr. Spooner seconded, "That all gentlemen present be elected as the general committee, with power to add to their number."

Dr. Withers Moore proposed an amendment, seconded by Mr. Branwell, "That inasmuch as the Committee of Council have in their recent appointments of readers of addresses ignored the claims of the profession in Brighton, it is not expedient for the medical men of this town to take any official part in the forthcoming meeting in August next."

The amendment was carried by a large majority.

Mr. Oldham proposed, and Mr. Murray seconded, "That the secretaries be requested to send a copy of the resolutions just passed to the Committee of Council, the Arrangement Committee, and to the following journals for insertion:—THE LANCET, *Medical Gazette*, and *British Medical Journal*."

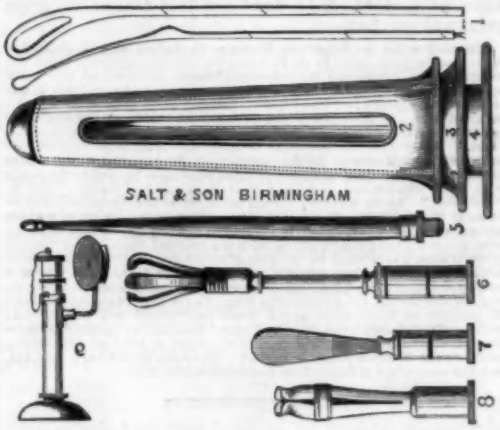
This was carried.

A vote of thanks to the Chair ended the meeting. The following gentlemen were present:—Drs. Kebbell, Withers Moore, Hall, Tanner, Moon, Parsons (Dover), Corfe, Barrett, Hollis, Taaffe, Messrs. Oldham, Hodgson, Spooner, Penfold, Edwards, Saltzman, Couling, Langdale, Cooper, Winter, Browne, M. Allen, Humphrey, Branwell, Murray, Oldham, junr., Nicholas, Curtis, Giffard, Seymour Burrows.

A special meeting of the Committee of Council has been called at the offices of the Association, at three o'clock on Tuesday next, the 29th instant, to take the resolution into consideration.

NEW SPECULUM VAGINÆ.

WE have examined the new speculum of Messrs. Salt and Son, of Birmingham, and find it a compact and convenient instrument. The novelty and utility of this invention consist in the economising of space, by arranging for the supply of a number of instruments in constant request by the obstetrician, without any increase in the bulk of the speculum. All the instruments illustrated below (except the lamp) are contained within the introductory plug, hereafter described. The speculum consists of two tapered metal tubes (Nos. 2 and 3), highly polished for reflection, fitting the one within the other, and capable of being used independently; thus forming two specula of consecutive sizes. Both have a lateral opening, as seen in the engraving; the inner one may, by rotation, close the lateral opening wholly or in part, so that any desired surface of the vaginal walls can be exposed for inspection or operation. The plug (No. 4) fits accurately the inner speculum, and has its end "coned," to facilitate introduction. It is closed at its larger extremity by a movable metal cap, which serves as a reflector for a candle-lamp. The complete speculum is contained in a neat leather case, and occupies, with the following instruments, no more space than an ordinary Ferguson's speculum:—1. Simpson's sound, united by a screw or hinge-joint to a



fenestrated elevator (No. 1). 2. Port-caustique, lancet, and sponge-holder (Nos. 6, 7, and 8), each fitting into a porcupine-quill handle of suitable length (No. 5). 3. Candle-lamp and reflector (No. 9). 4. Sponge and laminaria tents.

Correspondence.

"Audi alteram partem."

THE ARMY MEDICAL DEPARTMENT.

To the Editor of THE LANCET.

SIR,—The announcement that the examination of candidates for the Army Medical Department had been postponed did not surprise me very much. A short time ago I received a letter from a professor in one of the largest medical schools in the United Kingdom, in which he stated: "Only three of our men intend reading for the A.M.D., and *three worse men you could not find*." The italics are his. If all the schools tell the same story, no wonder that there should be a dearth of candidates for this now most unpopular branch of Her Majesty's service. And what can be done to make it otherwise? No increase of pay which the Government could grant would induce me to recommend the department at present. It will take years after the issue of the most acceptable Warrant to restore it to its former attractiveness. Where is the *esprit de corps* which unification was to establish? Where are the men who feel either pride or honour in writing A.M.D. after their names?

Let us hope to see the present narrowly limited prospects of medical officers greatly improved. Slow promotion and inadequate retiring allowances may be the points of reform in the minds of the authorities, but more is called for. Discontent can be only ameliorated so long as our legitimate aspirations are as definitely bounded as they are at present. Longevity must be better rewarded; merit still more. I hope to see medical officers regularly gazetted, as of old, to and from their regiments, and wearing the uniform of their corps. I hope to see the word "attached" consigned to the same limbo as the obnoxious word "control." Would not the medical officers of the Royal Navy feel extremely disgusted if henceforth they were to be only "attached" to their ships, and ordered to wear a uniform totally different from their brother officers, say red or green coats; and further, to be no longer gazetted to their ships, but appointed with the same amount of official courtesy deemed sufficient in the case of a stoker, or ship's steward?

I am, Sir, yours obediently,

V. W. V.

(One who is very proud of his profession, and *not* ashamed of his black belts.)

THE EDINBURGH COLLEGE OF PHYSICIANS AND THE TITLE OF "DOCTOR."

To the Editor of THE LANCET.

SIR,—I cannot help expressing surprise at the remarks made by Dr. Cumming, in the letter published in THE LANCET of Feb. 19th. I must with emphasis deny that the Edinburgh College has been so explicit with its licentiates as the tone of Dr. Cumming's letter would lead one to believe. I am sorry that I cannot now lay my hand upon a letter that I received from Dr. Haldane, in 1866, but my memory is not a treacherous one, and in that letter words ran to this effect:—"The College does not confer the title of doctor upon its licentiates, although, as a matter of courtesy, they are frequently so addressed." Moreover, when I first received the annual list, sent out by the College authorities, I was addressed by the title of doctor.

I am, Sir, yours obediently,

Feb. 1876. JUSTICE.

To the Editor of THE LANCET.

SIR,—I desire to state for the satisfaction of those gentlemen specially interested that in all the communications addressed to me from the College I have been styled "Dr."

I am, Sir, very faithfully yours,

London, Feb. 1876. F. W. A.

PARLIAMENTARY INTELLIGENCE.

HOUSE OF COMMONS.

MEDICAL CERTIFICATES.

IN answer to a question from Mr. WADDY, relating to Dr. Ballard's reports to the Local Government Board, in which it was stated that statistics of the cause of death were seriously vitiated by the registrars receiving information as to the cause of death from unqualified practitioners,

Mr. SCLATER-BOOTH said,—I had occasion to consider the questions raised by the hon. and learned member when engaged in preparing and passing through Parliament the Registration Act of 1874. It is true that in reporting on the sanitary condition of Tunstall in 1872 Dr. Ballard complained that the statistical results of the register were rendered unreliable, partly from the absence of certificates, and partly because the persons whose deaths were the subject-matter of his inquiry were attended by unqualified persons. His report as to Oldbury in 1875 was also to the effect quoted; but it is not strictly accurate to make use of the word "certificate" in reference to these entries. There is no certificate of death recognised by the Registration Act except that of a registered medical practitioner. Causes of death where there is no such certificate are registered in accordance with instructions issued by the Registrar-General, and there are many cases of death where there is no certificate, and in respect of which there would be no ground for application to the Coroner. The regulations are as follow:—"Unregistered Practitioners: Any formal certificate or written statement of the cause of death furnished by an unregistered assistant of a registered practitioner, or by a qualified but unregistered practitioner, or by an irregular practitioner—e. g., 'bone-setter,' 'herbalist,' &c.—and produced to the registrar, must be regarded by him simply as part of the information tendered by the informant of the death, who must take the responsibility of adopting the statement of the cause of death so furnished. In such cases nothing beyond the cause of death must be entered in Column 6, no reference whatever being made to the fact that the information was obtained from any formal or written document, and the name of a person signing such document must on no account be recorded in the register." It must be observed that Parliament has only insisted on a "certificate" in cases where a registered medical practitioner has been in attendance, and that there is no law prohibiting the employment of unregistered practitioners.

TYPHOID FEVER AT EAGLEY.

Mr. SCLATER-BOOTH, in reply to a question by Mr. Charley, said that his attention had been called to the outbreak of typhoid fever at Eagley, and he caused immediate inquiry to be made of the sanitary authorities of the locality, who gave a most deplorable account of the ravages of fever in that particular district. Two facts came out, though the inquiry was not quite concluded. In the first place, it would appear that the milk in question, though poor in character, was not greatly adulterated with water; and, secondly, the cans had been washed with water from highly-polluted sources. He could not say that he had it in contemplation to introduce any measure for the protection of health by special sanitary supervision of dairy farms, but he was aware of the advisability of passing bye-laws, and the subject should receive his consideration.

NOXIOUS NUISANCES.

Mr. SCLATER-BOOTH, in reply to a question, said that this subject is, and has been for some time, under the consideration of the Government.

COMMISSION FOR SCIENTIFIC INSTRUCTION.

In reply to Dr. Playfair, Mr. CROSS said that the subject had occupied the attention of the Government, and that the recommendations of the commission for scientific instruction and for the advancement of science had come under the immediate attention of the Government; but he would rather not anticipate what would be done until another member of the Government had enjoyed the opportunity of making a public statement on the subject.

KNIGHTSBRIDGE BARRACKS.

In reply to Mr. R. Yorke, Mr. HARDY said that it was the intention of the Government to reconstruct the Knightsbridge Barracks on their present site. The Government also proposed to add some land to that already occupied for this purpose, but he should not think it would be prudent to say at present what land would be wanted. The proposition on the part of the Government would enable the road to be widened sixty feet, which he hoped would be an improvement.

PLEURO PNEUMONIA.

In reply to a question from Mr. Barclay,

Sir M. HICKS-BEACH said,—For reasons which I have stated on previous occasions to the House, and which arise partly from the special circumstances of Ireland, but much more from the existing state of the law with regard to cattle diseases in that country, the Irish Government have felt unable to issue an order for the compulsory slaughter of animals affected with pleuro-pneumonia. I hope in a few days to introduce a Bill proposing certain alterations in the law in order to meet the difficulties which have hitherto existed, and to enable us to secure uniformity of regulations on this subject throughout the United Kingdom.

MILITIA SURGEONS.

In reply to Sir E. Wilmot,

Mr. HARDY said that the new regulations had not been issued, but they would be sent out very shortly. It was proposed to retain the services of the militia surgeons. No surgeons of militia able to discharge their duties had received notice to resign.

CIVILIAN DOCTORS IN THE ARMY.

Mr. WARD asked the Secretary of State for War how many civilian medical men are at present employed in the United Kingdom doing duty with troops.

Mr. HARDY replied that several civilian medical men were employed in the army in the place of certain military medical men who were absent on leave, and some of them were attached to the auxiliary forces on special occasions.

MEDICAL PRACTITIONERS.

Mr. GIBSON obtained leave to bring in a bill to enable legally qualified medical practitioners to hold certain public medical appointments, and to amend the Medical Act.

THE Stamp Duty on patent medicines shows an increase in the consumption in the year ending the 31st of March last amounting to £13,849. The duty in 1874 was £95,388, and in 1875, £109,237.

Medical News.

ROYAL COLLEGE OF PHYSICIANS OF LONDON.—The following gentlemen were admitted Licentiates on Feb. 22nd, 1876:—

Baily, Frederic William, St. Leonard's.
Baker, Albert de Winter, Trinity-street, S.E.
Dickinson, William Gilbert, Belle-vue, N.W.
Erith, William Edward Norton, Yonge-park, N.
Joseph, Sydney Westbrook Iorwerth, St. Leonard's.
Lacy, Alexander Gairdner, Guy's Hospital.
Murphy, Henry Howard, Westgate-terrace, S.W.
Roughton, Walter, Hammersmith-grove.
Wilson, Arthur Huelin, St. George's Hospital.

The following candidates, having passed in Medicine and Midwifery, will receive the College Licence on obtaining a qualification in Surgery recognised by this College:—

Pearse, Joshua Sydney, University College Hospital.
Sloman, Herbert, Farnham.

APOTHECARIES' HALL.—The following gentlemen passed their examination in the Science and Practice of Medicine and received certificates to practise on Feb. 17th:—

Jameson, Leander Starr, University College Hospital.
Walker, William, Albert-street, Camden-town.

The following gentlemen passed the Primary Professional Examination on the same day:—

Lawson, Thomas Cornelius, University College.
Smith, Gerard Henry, St. Bartholomew's Hospital.

A MEETING will be held at St. Mary's Hospital Medical School on Wednesday next of gentlemen connected with the institution and others for the purpose of raising a memorial to the late Mr. Gascoyen.

AT the last meeting of the Committee of Council of the British Medical Association, the following scientific grants were made, on the recommendation of the Scientific Grants Committee, in addition to those granted in August last, making a total for the year of £268:—Professor Rutherford: A further grant of £80, in addition to £20 granted at the last meeting, for researches into biliary secretion. Dr. McKendrick: £30 for researches into the antagonism of medicines, and £10 for researches on the dialysis of blood. Dr. Alfred Galabin: £15 (or £20 if required) for investigations in pulse-curves, especially in relation to such states as fever and Bright's disease.

BEQUESTS, &c., TO MEDICAL CHARITIES.—The Seaside Convalescent Hospital has received £1000 under the will of Mr. Fredk. Sheppard. Messrs. Joshua Tetley and Son, of Leeds, and Messrs. Storey, Brothers, and Co., of Lancaster, have each given 1000 guineas to the Royal Albert Idiot Asylum, Lancaster. Mr. J. C. D. Charlesworth has given £500 towards the proposed new hospital at Wakefield. The Goldsmiths' Company have given £100 to St. Mary's Hospital, Paddington.

Medical Appointments.

ANDERSON, Dr. A., has been appointed Medical Officer and Public Vaccinator for the Parish of Belhelvie, Aberdeenshire, vice Mennie, deceased.

BAGNALL, S. F., L.R.C.P.I., M.R.C.S.E., L.M., has been appointed Medical Officer to the Odd Fellows' Dispensary, Hull, vice Blyth, resigned.

BARRETT, J. E., M.B., has been appointed Medical Attendant to the Royal Irish Constabulary, Kilcullen, vice Barrett, deceased.

BUTLER, F. W., M.R.C.S.E., has been appointed Medical Officer for the second Division of No. 3 District of the Newhaven Union, vice Hart, resigned.

CERLY, R. W., M.R.C.S.E., has been appointed Medical Officer and Public Vaccinator for the Redmarley District of the Newent Union, vice Campbell, resigned.

CRITCHETT, G., F.R.C.S.E., has been appointed Ophthalmic Surgeon to the Middlesex Hospital, vice Hulke, resigned.

DAVIES, F. P., M.B., C.M., M.R.C.S.E., has been appointed Medical Superintendent of the Kent County Asylum, Barming-heath, near Maidstone, vice W. P. Kirkman, M.D., resigned.

GRIFFITH, G., M.R.C.P.Ed., has been appointed Medical Officer of Health for the new Milford Port Sanitary District.

GRINDROD, E., M.R.C.S.E., has been appointed Medical Officer of Health for the New Mills Urban Sanitary District.

HARRIS, A. C. E., M.B., L.R.C.S.Ed., has been appointed an Acting Medical Officer to the Wirral Hospital and Dispensary for Sick Children, Birkenhead, vice Laidler, resigned.

HARTHILL, J. T., L.R.C.P.L., M.R.C.S.E., has been appointed Medical Officer and Public Vaccinator for No. 6 District of the Wolverhampton Union, vice J. Harthill, M.R.C.S.E., resigned.

HUNTER, W., L.F.P. & S. Glas., has been reappointed a Medical Officer for the Parish of Kilbirnie, Ayrshire.

JONES, A. H., M.R.C.S.E., has been appointed House-Surgeon to Guy's Hospital, vice Clarke, appointed Resident Medical Officer to the West Riding of Yorkshire Prison, Wakefield.

JONES, Mr. E. W. T., has been reappointed Public Analyst for Wolverhampton for one year from the 1st of March: 2s. 6d. to 10s. 6d. per analysis.

LONGFORD, H., L.K.Q.C.P.I., L.R.C.S.I., L.M., has been appointed Medical Officer for the Osmotherley District of the Northallerton Union, Yorkshire, vice Pringle, resigned.

LONGRIGG, D., M.R.C.S.E., has been appointed Medical Officer to the Alexandra Friendly Society at Penge.

LOVE, J. H., M.R.C.S.E., has been reappointed Medical Officer of Health for the Wolverhampton Urban Sanitary District for one year from the 1st of March.

MACKENZIE, F. M., L.R.C.P.Ed., L.F.P. & S. Glas., has been appointed Medical Attendant to the Inverness Dispensary, vice Clark, deceased.

MAC SWEENY, J. P., L.K.Q.C.P.I., has been appointed Medical Officer, Public Vaccinator, and Registrar of Births &c., for the Ballycroy Division of the Achill Dispensary District of the Newport Union, Co. Mayo, vice Owens, resigned.

MATUAIS, L., L.R.C.S.I., has been appointed Medical Officer, Public Vaccinator, and Registrar of Births &c., for the Achill Division of the Achill Dispensary District of the Newport Union, Co. Mayo, vice Scott, resigned.

ORPEN, R. H., L.R.C.P.Ed., L.R.C.S.Ed., has been appointed Medical Officer for No. 3 District of the Potterspury Union, Northamptonshire, vice Heygate, deceased.

PAGE, H. W., M.B., F.R.C.S.E., has been appointed Assistant-Surgeon to St. Mary's Hospital, vice Gascoyen, deceased.

RICHARDSON, W., L.R.C.P.Ed., L.R.C.S.Ed., has been appointed Medical Officer and Public Vaccinator for the Hendred District of the Wantage Union, vice Mockett, whose appointment has expired.

ROBERTS, J. Ll., M.B., has been appointed an Honorary Medical Officer to the Denbighshire General Infirmary.

ROYLE, A., M.R.C.S.E., has been appointed Surgeon in Ordinary to H.R.H. the Prince Leopold.

SHARP, E., M.R.C.S.E., has been appointed Medical Officer of Health for the Truro Urban Sanitary District, vice Andrew, deceased.

SHEPHERD, A. R., M.B., F.R.C.P.I., has been appointed a Physician to the City of London Hospital for Diseases of the Chest, Victoria-park, vice Sutton, resigned.

TAYLOR, H. O., M.B., C.M., L.R.C.P.Ed., L.R.C.S.Ed., has been appointed Medical Officer to the Nottingham Town Gaol, vice Thompson, resigned and superannuated.

WALKER, W., L.F.P. & S. Glas., has been reappointed a Medical Officer for the Parish of Kilbirnie, Ayrshire.

WHITINGTON, C. E., M.R.C.S.E., has been appointed Medical Officer and Public Vaccinator for the Tuxford District of the East Retford Union, vice P. Whitington, M.R.C.S.E., resigned.

WOODBURN, W. H., L.R.C.P.Ed., has been appointed Medical Officer to the Burlington Slate Works Benefit Society, Kirkby-Ireleth, vice Moorehouse, deceased.

Births, Marriages, and Deaths.

BIRTHS.

GLOVER.—On the 21st inst., at Compton-terrace, Highbury, the wife of Jas. Grey Glover, M.D., of a son.

HINCKS.—On the 17th inst., at Hay, Breconshire, the wife of T. S. H. Hincks, M.B., C.M., of a son.

M'MUNN.—On the 11th inst., at Waterloo-road, Wolverhampton, the wife of C. A. M'Munn, M.D., of a son.

PURVIS.—On the 15th inst., at Greenwich, the wife of John Prior Purvis, M.R.C.S.E., of a son.

RANKING.—On the 15th inst., at Mount Ephraim-road, Tunbridge Wells, the wife of John E. Ranking, M.R.C.S.E., of a son.

SEALY.—On the 13th inst., at Weybridge, the wife of Geo. J. Sealy, M.D., of a son.

SWANSON.—On the 20th inst., at Lawrence House, York, the wife of Geo. J. Swanson, M.D., of a son.

WHITE.—On the 17th inst., at Ardwick and Ancoats Dispensary, Mill-street, Manchester, the wife of Dr. J. C. White, of a daughter.

MARRIAGES.

FURSE—HOSEGOOD.—On the 10th inst., at Thelbridge Church, Edwin Furse, M.R.C.S.E., to Betsy Spencer, daughter of the Rev. Samuel Hosegood.

POCOCK—BARRATT.—On the 13th inst., at St. Mark's, Myddelton-square, by the Rev. F. Pearce Pocock, M.A., father of the bridegroom, F. Ernest Pocock, M.R.C.S.E., L.S.A.L., of Golborne-road, Upper Westbourne-park, to Margaret Ellen, daughter of the late Wm. Barratt, Esq.—No Cards.

DEATHS.

BATWELL.—On the 21st ult., at Charleville, Andrew Batwell, M.D., aged 56.

DAVIDSON.—On the 13th inst., at Archachon, France, D. M'G. Davidson, M.D., Surgeon-Major Army.

DAY.—On the 14th inst., at Portland-square, Bristol, Frederick A. E. Day, M.R.C.S.E., aged 41.

DEANE.—On the 10th inst., at St. Ives, Hunts, James Deane, M.D., aged 63.

DUKE.—On the 11th inst., at Cadogan-terrace, South Hackney, B. Duke, M.R.C.S.E., aged 27.

HARDIE.—On the 11th inst., at Alva-street, Edinburgh, Joseph B. Hardie, M.B., aged 30.

HUMPHRY.—On the 8th inst., at Malta, Alex. Humfrey, L.R.C.S.I., Surgeon-Major 98th Regiment.

HUNT.—On the 14th inst., at Silverstone, Wm. J. Hunt, L.R.C.P.L., aged 39.

ILIFF.—On the 17th inst., at Epsom, Wm. Tiffin Iliff, L.S.A.L., aged 77.

LUCAS.—On the 21st inst., at Burlington-street, Liverpool, James Lucas, M.R.C.S.E.

MASSY.—On the 19th inst., at Monkton-Combe, Somersetshire, Hug Massy, Surgeon, aged 77.

PATTISON.—On the 18th inst., at North-end Lodge, Walham-green, Dr. J. Pattison.
RECKITT.—On the 10th inst., at Madeira, Wm. Burtt Reckitt, M.R.C.S.E., aged 24.
SMITH.—On the 14th inst., at Bathampton House, near Bath, R. M. Smith, M.D., aged 65.
TURNER.—On the 15th inst., at Northampton, John Turner, M.D., aged 36.
WANKLYN.—On the 12th inst., at Leek, Arthur Wanklyn, M.B., aged 31.
WAYMOUTH.—On the 17th inst., at Lichfield, Albert Waymouth, M.R.C.S.E., aged 32.

[N.B.—*A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.*]

BOOKS ETC. RECEIVED.

Dr. Balfour: Diseases of the Heart.
Mr. Macnamara: Diseases of the Eye.
Dr. Roy: Burdwan Fever.
Dr. Richardson: Diseases of Modern Life.
The British Army of 1875.
Voltaire's Zaire.
From Vineyard to Decanter.
Dr. Flint, jun.: Text-book of Human Physiology.
Mr. Spence: Lectures on Surgery. Vols. I. & II.
Mr. Darwin: Animals and Plants under Domestication. Vols. I. & II.
The Year-book of Facts. By C. W. Vincent.
Mr. Cox: The Mechanism of Man.
Mr. Blyth: A Dictionary of Hygiene and Public Health.
Mr. Kirkman: Philosophy without Assumptions.
Dr. Jenner's Clinical Medicine.
Transactions of the Pathological Society of Philadelphia.
Anthology of Modern French Poetry.
Corneille's Le Cid.

Notes, Short Comments, and Answers to Correspondents.

METEOROLOGY IN INDIA.

AT the last meeting of the Meteorological Society a paper on "Meteorology in India in relation to Cholera" was read by Colonel J. Puckle, M.S.C. The author brought forward some facts in connexion with several serious outbreaks of cholera in different parts of the Mysore country during the last fifteen years, and drew attention to the similarity of the abnormal meteorological conditions that existed on each occasion. Except in a few of the largest towns in India, there are no sewers, and no sewer gas proper. Even in these exceptional towns the drainage is incomplete. The general sanitary arrangements are of the most primitive character. In the rural districts the inhabitants adhere to the Mosaic law, in so far that they go forth to the fields, but they do not carry the "paddle" with them for the purpose that was the exponent of the "dry-earth" system; that necessary portion of the work is left to the drying action of a powerful sun, to the kites and other carrion birds, and, *horribile dictu*, to the pigs and poultry, that afterwards are, doubtless, turned into food. In this way it is not difficult to conceive that sewage of the direst and most unadulterated kind may possibly be taken into the system through poisoned meat, or during rainfall it may find its way to open reservoirs or wells, from which two sources the inhabitants depend for their water-supply. At other times, during the hot, dry weather, when no rain falls, malaria may arise, and be distributed through the agency of the atmosphere. Notwithstanding all that has been said and done, the clue to the mystery of the origin of the disease remains undiscovered. It is the same with the treatment. Remedies that at one time appeared to be most effectual have at another most signally failed. Even during the same attack, the same remedy that cured one person would fail in another, even where the same conditions apparently existed. Failure of the usual rainfall at the proper time, and abnormally high and harsh temperature, have been concurrent with several attacks in Mysore and Southern India. At such times the open reservoirs or lakes and wells are much below the usual spring level, and any contamination received at such a time is obviously much less diluted and more harmful. The author then gave an account of several attacks that had come under his own personal knowledge, which showed beyond doubt that the disease has been arrested by change of air and surroundings, and that ordinary sanitary practice has prevented a possible outbreak. After referring to the recent outbreak at Bangalore and Madras, the author said that everywhere the same story is told of the occurrence of cholera coincident with long absence of rain and a temperature abnormally high.

"AMERSHAM, WANTAGE, AND STRATTON."

To the Editor of THE LANCET.

SIR,—In reply to your correspondent, Mr. G. R. Shemilt, I beg to inform him that Amersham is in the county of Buckingham, and the only Wantage that I know of is in Berkshire, and not very far, I fancy, from Swindon, where Mr. Shemilt resides. I quite agree with your correspondent that the names of the counties ought to be inserted in these advertisements; but in cases where it is not done, would suggest looking for the place in any good map. Certainly places like Stratton might be mistaken, but not Amersham or Wantage. I am, Sir, yours &c.,

A MEDICAL OFFICER IN THE AMERSHAM UNION.

February, 1876.

THE TENURE OF HOSPITAL APPOINTMENTS.

Mr. Thomas Southall.—The operation hour of the London hospitals is announced weekly in the medical journals, and all medical men and students are welcome. We do not think that all registered medical men and surgeons in a town should attend patients in the infirmary of the town. All medical men are not equally fit for such duties. Hospital appointments should be held for a certain length of time. Everybody is interested in this principle—the patients, the public, and the profession. Constant rotation and change in such appointments give no time for making good surgeons and physicians. Nevertheless, we approve of making hospital appointments only for a definite period, or, as a rule, terminable at a certain age, so that there may be no monopoly of privilege, and frequent introduction of new blood.

THE paper of *Mr. Clement Lucas* shall be published at an early date.

POISONING BY CHLORAL HYDRATE.

To the Editor of THE LANCET.

SIR,—Now that poisoning by chloral hydrate is of frequent occurrence, it may be as well to record one's experience, especially with regard to treatment in such cases.

A few days since I was called to a gentleman, aged twenty-one, who for three days had experienced great mental anxiety, which prevented him taking food and obtaining sleep. He told his landlady he had taken two teaspoonfuls of chloral mixture for the purpose of procuring sleep, and that he did not wish to be disturbed for a few hours. She said he was very much excited for a few minutes, but soon fell into a profound sleep. This alarmed her, and I was called in.—8 P.M.: First saw patient two hours after the dose had been taken. Found him in a calm sleep; respiration 20; pulse 88, full and regular; pupils somewhat insensible to light. Considering he had been for so long a time without sleep, I did not think it advisable to awaken him. At 10 P.M. I again saw him, and, to my surprise, found him in a completely comatose state. Respiration 13, stertorous; pulse 120, weak, regular; pupils rather dilated, no reflex action on touching conjunctivæ; extremities cold. Mustard applied to the calves of legs, flipping even to flagellation with a wet towel the face and chest, and strong smelling salts held to the nostrils failed to produce the slightest sensibility. At this crisis I sought the opinion of a brother practitioner, Dr. Lewis. We at once determined to apply a piece of lint two or three times folded and saturated with liq. ammon. fortiss. (taking care he did not inhale the vapour) to the nape. This in five minutes raised a blister, and on removing it the epidermis was also removed, leaving a raw surface about four inches square. This awakened sensibility. He was then put to bed with several hot-water bottles, and for four hours afterwards I kept applying for a few seconds at a time, at intervals of about fifteen minutes, this ammoniated lint to the raw surface. This never failed to rouse, and cause him to cry out pretty audibly, "Neck, neck." While his mouth was thus opened I administered by spoonfuls strong coffee, which as soon as swallowed was rejected. Brandy and milk, equal parts, was then substituted and retained. After pursuing this treatment for four hours his extremities became quite warm; pulse 104; respiration about normal, somewhat stertorous; pupils quite insensitive to light and conjunctivæ to touch. In this state I left him, giving instructions to rouse him, and give brandy and milk every half hour until I saw him again.

At 8 A.M. next morning I found him somewhat conscious, but completely blind, and unable to raise his eyelids; pupils rather contracted; conjunctivæ *sensitive* to touch.—3 P.M.: He was much more conscious, muttering at times in an excited way about his mental grievance; could be roused to answer questions, and implored me to get his grievance redressed, and that he would then be able to sleep. I promised I would do all in my power to that end, and he soon became calm, and slept for four or five hours. On waking he took plentifully of milk.—11 P.M.: Had passed no urine for twenty-six hours, neither had he any desire. I was about to use the catheter; but, instead, brought him to the edge of the bed, placed his feet on the floor on the carpet, previously wetted with cold water. This at once caused him to pass a large quantity of high-coloured urine. I left him for the night, ordering him beef-tea and milk; of the latter he drank a pint and a half during the night.

At 10 A.M. next day I found him quite conscious, but unable to raise his eyelids; when raised for him they remained open. He could now for the first time *see*. Pulse 100; temperature 100°; respiration normal. Complained of great pain and confusion in head. I gave him a dose of calomel and colocynth, which acted freely, and much relieved his head; slept well.

Next day the patient had two or three hysterical fits, with prolonged spasm of glottis, which on one occasion almost threatened suffocation. He took plentifully of beef-tea, and without further treatment was sufficiently recovered to be taken home next day, a distance of some fifty miles.

Now, feeling sure that all this disturbance could not have been brought about by the dose (two teaspoonfuls) which he said he had taken, I ascertained for a fact the morning after I first saw him that he had taken two ounces and three drachms of the official syrup of chloral, equal to 190 grains of the salt. He, moreover, subsequently himself told me that he had taken that quantity at a dose.

It is possible in this case that galvanism might have been of service; but as a suitable apparatus was not at hand, and as there was no time to be lost, I think we were justified in adopting the treatment we did, which, although severe, was effectual.

I remain, Sir, yours obediently,

EDMUND WHITE, L.R.C.P. Ed.

Park-terrace, Regent's-park, Feb. 1876.

POCKET MEASURES.

Mr. Hawksley, of Oxford-street, has sent us some convenient little ivory pocket measures, containing various scales. Each measure is three inches long, and bears on the one side inches divided on one edge with eighths and sixteenths; on the other with tenths, twentieths, and fiftieths. On the other side is a centimetre scale, divided also into millimetres and half-millimetres, and also a comparative scale of Fahrenheit and Centigrade thermometric scales between 60° and 115° F. The measure is a useful little pocket companion, convenient for reference and measurement, and may be made to do duty on occasion as a paper-knife.

TOBACCO.

TOBACCO consumers will be glad to learn that nearly the whole of the tobacco manufactories of the United Kingdom were carefully inspected during the past year, and the trade was found practically free from adulteration. The manufacturers of roll tobacco who formerly used colouring matter have, since proceedings have been taken for this offence, almost entirely abandoned the practice. Considering that the duty is not less than three times as great as the actual cost of the tobacco, the inducement to adulterate is very great, and it will be only by frequent and searching inspection that adulteration can be kept in check. American sun-dried tobaccos, bearing fanciful names, such as "Yacht Club," "Fruits and Flowers," have come into fashion. The tobacco is of excellent quality; but, as sweetening matter is allowed to be used in the American manufactories, many of these descriptions of tobacco contain small quantities of liquorice or other saccharine matter, which has either got in by accident or been purposely added. The tobacco commands too high a price ever to become an article of large consumption, and but little danger to the Revenue is to be apprehended so long as it is kept in unbroken original packages as imported. During the year, 334 samples have been examined, of which 282 were from the Excise and 52 from the Customs. 180 of the Excise samples were genuine, and 102 adulterated. The adulterants in 96 samples were sugar, liquorice, sand, vegetable fibre, colouring matter, wood, straw, and lime-tree leaves. The remaining six samples were explosive cigars and cigarettes, and were adulterated with lime-tree leaves and gunpowder, the percentage of lime-tree leaves ranging from 8 to 75, and of gunpowder from 7 to 11 respectively. Of the Customs samples, 23 were obtained from the manufacturers of cavendish and negrohead, in bond for the estimation of moisture. Of the remaining 29, 17 were genuine, and 12 adulterated with liquorice and sugar.

Dr. John Lowe, (Lynn.)—The prefix to the correspondent in question should have been "Mr."

Iatros.—1. There is no necessity to do so.—2. Simple "Mr."

"PORTSEA ISLAND BOARD OF GUARDIANS AND THEIR MEDICAL OFFICERS."

To the Editor of THE LANCET.

SIR,—With regard to your editorial remarks in last week's LANCET respecting the "Portsea Island Board of Guardians and their Medical Officers," it would have been more to the interest of those implicated had you suspended the same till you were better informed in the matter, and had heard the other side of the question, thus verifying your oft-quoted and well-selected motto, "Audi alteram partem," and not have rushed to conclusions so damaging to my professional reputation on *ex-parte* statements and the garbled report of the *Southsea Observer*.

I feel, however, confident that on learning the facts of the case on their true merits, the recital of which is now reluctantly forced upon me, and which in self-defence I feel it my duty unreservedly and fully to set forth, you will see the necessity of reversing your judgment, and acquit me of any intention to support the accusation against Mr. Stickland. On the contrary, I bear the calumnies heaped upon me by the *Southsea Observer*, to which the editor has pleaded guilty, on the unqualified denial of Mr. Howell (I send paper); the unwarrantable reflections made by Mr. Stickland, and in the face of the bitterest animosity and indignities exhibited by some members of the profession, who it would have been expected would have known better, without flinching, and never sought in my own defence to justify myself in the public press or otherwise, which I might so easily have done to the inevitable prejudice of those implicated. I feel sure that on the perusal of the *Portsmouth Times* (a copy of which I send), you cannot fail to be impressed with my earnest endeavour as far as possible to shield those most concerned. The facts of the case are as follows.

I was hurriedly summoned about 1.30 P.M. on Wednesday, Jan. 26th last, by the matron of the Portsea Island Union Hospital, to attend the subject of this inquiry, Matilda Angell, who had just been admitted in her confinement. On my arrival I found the poor woman in violent convulsions, and a cursory glance revealed unmistakable predisposition to the disease in question—viz., general œdema of the surface, almost amounting to anasarca. I expostulated with the husband and mother of the woman on the injudicious course they had taken in bringing her into hospital in such a condition, and that they ought to have sent for a medical practitioner to attend her at her own abode instead, when, to my astonishment (never dreaming that any practitioner had been in attendance), I was met by the reply that two practitioners, Messrs. Stickland and Morley, had seen her about 10 o'clock the same morning, and that she was taken with a fit at 8 A.M., and never recovered thorough consciousness afterwards. Much against the will of the husband, the gentlemen in question ordered him to send her into hospital (although the house accommodation, according to Mr. Stickland's own showing, was quite equal to the majority of habitations occupied by persons of her class under similar circumstances), stating that the *child was dead*, that they could *do nothing for her*, and if he valued her life he would send her there. I was also given to understand that the usual examination to ascertain the existence of labour had not been made. I at once applied the stethoscope, and found unmistakable signs of fœtal life, and, on further prosecuting my examination, found the os uteri slightly dilated, and with occasional feeble uterine contraction. I ruptured the membranes at once, and waited a short time for the further dilatation of the os. In about three-quarters of an hour's time another fit came on, and immediately on its cessation I without difficulty applied the long forceps, and without loss of time delivered *her of a living child*, a male at *full term*, which *is alive and well at the present time*—a proof, were it required, of the perfect success of the operation, and the prudence in the selection of the instruments used. The convulsions ceased only to return once in about an hour's time, excepting further on in the case, when several fits at long intervals took place before her dissolution. At first I was sanguine from the cessation of the convulsions as to her ultimate recovery. However, it very soon became evident that her brain, from excessive uræmic poisoning and probably effusion, aggravated also by a sharp bronchial attack, which it appears she was suffering from when the attack came on, was so paralysed that she failed to rally, and died comatose three days afterwards.

A brief statement to the above effect was made by me in the Medical Report Book, which in the execution of my duty I am bound to observe in pursuance of Local Government Board instructions in all sudden emergencies &c., and which you will find reported in the *Hampshire Telegraph*, but which was ingenuously omitted in the *Southsea Observer*, and a garbled concoction of a most libellous nature inserted instead, for which I am taking legal proceedings.

The only pretext for accusing me of supporting the accusation against Mr. Stickland is, that I gave it as my opinion, and my reason for so doing, forcibly *extorted* from me in self-defence, and for which he has himself to thank, that I would not have sent the woman from her home, which I contend I was bound consistently with the severe reproof I had, it is true, inadvertently administered to the husband and mother, and I feel sure it will be conceded on all hands that, in common humanity, and in the interest of the truth, I was bound to do so at any risk. I repudiate *in toto* my having made the report in question, or any other report, as a basis for any charge, but simply as a guide to the guardians in their instructions to the relieving officers. The statements of Mr. Cunningham in the report of the proceedings fully exonerate me on this head.

In conclusion, I beg briefly to recapitulate the facts at issue:—

1st. Was it possible for Mr. Morley to state the woman was not in labour without making an internal examination?

2ndly. Assuming the case to be in the early stage of pregnancy, was placing the woman in a cab to be conveyed a considerable distance the proper means of preventing the convulsions or averting labour, which it was alleged did not exist?

3rdly. Was it prudent to leave the woman without medical supervision for three hours, and is it not possible even in the earliest stages of pregnancy for *labour to come on precipitately*?

4thly. Was not the *child born alive at full term*, although alleged to be *premature* and *dead*?

5thly. Is it not a fact that the majority of women of her class are delivered at their own homes with *even less house accommodation and worse hygienic surroundings*?

6thly. I was a pupil at the Rotunda Lying-in Hospital, Dublin, and I question very much, excepting in the absence of professional advice, whether a woman in convulsions would be sent there without being accompanied by a *medical practitioner* or *midwife*.

Now, Sir, I feel sure, in the face of these *stern facts*, the accuracy of which I can vouch for on oath, you and the profession at large will acquit me of the charge imputed to me, the injustice of which I need not say I feel deeply, and which as a new-comer affects me most seriously.

I must ask your indulgence, in common justice, to insert this without fail in your next impression. Yours obediently,

Southsea, February 22nd, 1876. D. W. WILLIAMS, M.D., &c.

P.S.—I transcribe a verbatim copy of the statement made by me in the Medical Report book:—

"Jan. 26th.—Matilda Angell, admitted on the 26th inst. for *puerperal convulsions*, and was delivered *with instruments* of a living child on the afternoon of the same day, soon after her arrival. She only had very slight recurrence of the violent fits after I delivered her. She never recovered consciousness after her first fit at 8 A.M. on the same day (26th inst.), and died *comatose* about 5 P.M. on Saturday, the 29th inst. The poor infant is well and thriving."

Mr. Wm. Henry Wright will see that the evil is receiving some exposure at our hands to-day. The person in question can be prosecuted for using titles falsely. Our Colleges and our Medical Council think little of this evil, and do not prosecute as they should. Let us hope soon to have a public prosecutor. Meantime the Medical Defence Association has shown that it is possible to prosecute successfully such culprits under the Apothecaries Act.

A RECTIFICATION.

To the Editor of THE LANCET.

SIR,—A note from Mr. Spencer Watson reminds me that I must correct an error in your report of my observations made at the Clinical Society on Friday, Jan. 28th.

The cases of recovery from cataract extraction (with central and movable pupils) which I introduced on that occasion had been operated on by a small incision made downwards, and the lens was removed through the pupil. The form of incision adopted I described and illustrated by a woodcut in the *Edinburgh Medical Journal* for February, 1868; the only difference at present being that it is made downwards, and the iris prevented from prolapsing by the instillation of a solution of eserine.

With regard to the case of symblepharon, your reporter states that the only trace of the operation was a slight scar on the lower lid. The flap was taken from the upper lid, and transplanted on to the lower surface of the globe. The lower lid was untouched, and there is no perceptible scar on the upper. Your obedient servant,

February, 1876. CHAS. BELL TAYLOR, M.D., F.R.C.S.E.

Dr. Drummond, (Oldham.)—The matter is hardly of sufficient importance to warrant a publication of the letter sent.

Layman.—It should be lightly cooked, unless the consumer is in a very delicate state of health.

Dr. Rosenstein, (Philadelphia.)—The communication, if forwarded, shall receive attention.

JAUNDICE AFTER MEASLES.

To the Editor of THE LANCET.

SIR,—I have in my practice at the present time an exactly similar case to those mentioned by Mr. Bell in your impression of the 5th inst.

My patient, a little girl aged three, had an attack of measles just a month ago. She continued very unwell for a fortnight, when jaundice developed itself. There was extended dulness over the region of the liver, with the characteristic stools and urine, the mucous membrane of the mouth and nose being very much excoriated, and so much hoarseness that you could hardly distinguish a word she said. She is now making a good recovery.

I am, Sir, yours very truly,

Rotherham, Feb. 8th, 1876. W. J. SMITH, L.R.C.S. Ed., &c.

A NEW MEDICINE.

AT the last annual meeting of the Medical Society of the State of Virginia, Dr. W. F. Barr called the attention of the fellows of the Society to a new preparation of "iron and alum," manufactured in Washington county, Virginia, from the waters of "seven mineral springs." It is made by evaporation, and the analyses of Professors J. W. Mallett, of the University of Virginia, and Antisell, of the Smithsonian Institute, D.C., find it to consist chiefly of iron, alumina, magnesia, glauber salts, and lime. This medicine had been prescribed by the physicians of the South-western section of the State, and found to be an excellent tonic and alterative. One advantage it has over the ordinary ferruginous preparations is, that it does not constipate the bowels; on the contrary, it acts as an aperient. It has been endorsed and recommended by the Abingdon Academy of Medicine "as a valuable contribution to materia medica."

Mr. G. P. Field, (London.)—Yes.

OVARIAN DROPSY.

To the Editor of THE LANCET.

SIR,—I have had under my care for the last four and a half years a patient, aged now about thirty-three years, who has suffered from ovarian dropsy for fourteen years. At the commencement of her illness she was strongly urged to submit to ovariotomy, but persistently refused. She has been tapped in all sixty-two or sixty-three times, and during my attendance on her the quantity of fluid has varied very little. I have had no means of accurately measuring it; but it very nearly fills two ordinary slop-pails. The intervals between the operations have diminished from twelve months between the first and second to four weeks, at which it has stood since August. I find that I tapped her eight times in 1872, nine times in 1873, ten times in 1874, and twelve times last year. I know no difference to speak of in her general condition since she first came under my notice. If there is any alteration, it is decidedly in the way of improvement, as she was at first constantly dependent on tonics and stimulants, or at least believed herself to be so, and imbibed them freely. She has gradually discontinued them, and now uses no tonics and scarcely any stimulants. The tumour is multilocular, and I believe only one cyst has ever been evacuated. The fluid is always transparent and nearly colourless, except when a small vessel has oozed after an operation (as has occurred twice in my time), when it has been brown in hue. There has never been in any of the sixty-two operations the slightest trouble, and the wound has invariably healed by the first intention, without either pain or irritation. There is another very large cyst, which extends from one hypochondrium to the other, and projects considerably in the lumbar region on both sides, but especially on the left. After emptying the lower cyst by tapping under the umbilicus, the other lies like a great bolster across the epigastrium. There are three or four pieces of solid growth—one in the hypogastrium, another stretching across between the two great cysts, and another in either the right or left flank. They are more or less wedge-shaped, and feel not unlike pieces of hobnailed liver.

My object in troubling you with these details is to learn from you or some of your readers—first, whether I should be justified in attempting to pass a long curved trocar through the septum between the cysts after emptying the lower one; or second, whether I am doing the best thing for my patient in leaving the upper cyst uninterfered with, or ought to tap it in the hypogastric or lumbar region. I have been urged of late by my patient to leave the canula *in situ* after tapping. She has heard of persons living for years "with silver tubes in their throats," and she asks why she should not wear one in the abdomen, fitted with a plug or tap, so that she might empty the cyst at pleasure. She spends four to eight days in bed after her operation, feels tolerably comfortable for another week, but feeble, and from the end of the fortnight lives in gradually increasing discomfort and pain until she is driven to send for me to relieve her. "With her silver tube she would keep herself from filling." She asks me if there would be any great risk, and I cannot answer the question. There is, of course, a great difference between opening into a serous cavity and into an open duct lined with mucous membrane; but long experience has proved this particular peritoneum to be tolerant of very rough treatment, and I should like to address to you a third question—viz., whether such a course as my patient entreats me to adopt has ever been tried, or if there are practical objections to it that would outweigh its apparent advantages. Speaking for myself, I may say that with what I have seen of the case, if I were compelled on my own judgment to adopt some one of the several courses I have mentioned, I should have less hesitation in giving the constant use of the canula a trial than in opening into the upper cyst. But I shall feel grateful if you or any other of my professional brethren with a wider experience of such cases than I possess will give me the assistance of your advice.

I remain yours truly,

February, 1876. THOS. M. WATT, M.R.C.S.

Not a Fellow.—The gentleman named by our correspondent does not appear in the Directory as a F.R.C.P. Lond. We have no means of answering the last question asked.

Mr. McConnell, (Calcutta.)—The article shall be published in due time.

A. R.—Any London hospital.

Mr. Adam Scott is thanked for his letter.

TREATMENT OF ACUTE ORCHITIS.

To the Editor of THE LANCET.

SIR,—I have not been anxious to mingle in the orchitis fray, in which so many eminent combatants have been hitting out with so much science and goodwill, and therefore have waited hitherto for some one more worthy of Mr. H. Smith's steel to come forward as champion of the treatment of the disease by strapping, as advocated by Fricke. This plan I have invariably pursued for many years, to the mutual satisfaction of myself and patients, the pressure causing rapid absorption and consequent relief of all the symptoms in an extremely short time. To those who have not adopted this plan, but may think of trying it, I would say that it is a *sine qua non* the pressure should be firm, and at the same time perfectly equable. Of course the usual constitutional remedies should not be omitted.

Your obedient servant,

Basingstoke, Feb. 1876. J. P. LEWIS, M.D.

Mr. David Alexander.—We think the decision unjust, and that our correspondent's claim is sound in law and equity; but we must leave it to himself to consider whether it is worth while to take the matter to a higher court. The play would scarcely be worth the candle.

T.—We cannot notice the matter, as publicity would be advantageous to the individual and his book. We feel sure the extracts quoted are fabrications.

Medicus.—The question is settled. Moreover, our correspondent's view of the law is very imperfect.

Dr. W. Geoghegan.—The best course would be for the friends of the patient to advertise for the requirement sought.

MILITIA SURGEONS.

To the Editor of THE LANCET.

SIR,—I only wish the War Office was of the same opinion as your correspondent, "A Militia Surgeon of Twenty Years' Standing." Mr. Hardy and Lord Cardwell, by their answers, both show that they do not consider we have a claim to compensation or retiring allowances under any Act; for they say: "Cases of hardship calling for compensation will be treated on their merits"; and, moreover, half-pay was to be given only after ten years' embodiment.

With regard to the non-meeting of the Committee of the Militia Surgeons' Society, it was deemed needless by the President to call together the members until such time as we were in possession of the intentions of the War Office with regard to us. In 1874, when a deputation waited on Mr. Hardy, the answer given was: "New Regulations will be shortly issued, in which your case will be met; but until then I cannot give you any further information." We waited patiently for those until July 13th, 1875, when Mr. Hardy was applied to by Dr. Lyon Playfair, to say why they were still unissued, and the answer was, "that difficulties had arisen with regard to the militia medical officers, through their being brought into contact with the brigade depôts. He hoped the Regulations would be published at no distant date." Time went on, and Sir E. Wilmot again put the same question, and I have Mr. Hardy's answer, wherein he says "he is very sorry he has not redeemed his promise of 1874; but that they had been so altered and patched that they required to be entirely rearranged; but that they were then in hand for final approval, and would be in the hands of the printer and public immediately." No information would be given as to their contents or the intentions with regard to us. Under these circumstances it was deemed best to wait before meeting to see what these new Regulations were, and that should they be antagonistic to our interests, then was the time to act. I think it is plain that had the Committee met, we should have received exactly the same amount of satisfaction as that obtained by the M.P.s. Your correspondent may rest assured that our interests are being carefully watched over, that questions are to be asked, and action taken should the answers be unsatisfactory.

I am, Sir, yours obediently,

February 21st, 1876. M. S. S.

To the Editor of THE LANCET.

SIR,—Since writing my letter of the 14th inst. on the retirement of militia surgeons, I find Sir E. Wilmot asked the following question in the House on Monday night: "Whether the new Medical Regulations for the Reserve Forces, promised in 1874 and 1875, had yet been issued, and whether under them it was proposed to retain the services of the militia surgeons; and, if so, upon what terms, and what compensation was to be granted to those surgeons of militia who, although in good health and able to discharge all duties required of them, had received notice to resign their commissions, under Part 15, clause 9, Militia Regulations, dated 28th May, 1872." He received for answer from Mr. Hardy: "That the Regulations had not yet been issued by the War Office, but would be very shortly. It was proposed to retain the services of the militia surgeons under conditions which would be published. As to the last part of the question, no surgeons of militia in good health, and able to discharge all duties required of them, had received notice to resign their commissions under the Circular referred to."

Now, Sir, I interpret the first part of the answer to mean that the Government find they are so short of staff surgeons that they are unable to spare them to do the duties of the depôt centres, and they therefore fall back upon the present militia surgeons. It is made to appear to the House as a *favour* to retain their services for their own advantage, whereas the advantage will evidently be on the side of the Government. Secondly, our services are to be retained "*if we can perform all the duties required of us.*" May I remind you that twenty years ago, when we entered the service, it was understood that the regiments would be trained at head-quarters, and we were obliged to live there. We joined accordingly. What has been the practice? I will state my own case, no doubt similar to others. Immediately embodied and sent to a garrison town, remained away for nearly two years, returned to head-quarters, embodied again, sent to Ireland for many months. During the last ten years our trainings have been spent at Aldershot, and we have been to autumn manœuvres. By to-day's *Times* I see two army corps are to be mobilised this year, and we are expected to do duty with one of these.

Now I ask, Sir, how is it possible for men in practice to hold militia surgeoncies in the future with all this uncertain work hanging over them? The surgeons who joined when I was appointed were men of some position in their respective towns, and we never contemplated this marching and counter-marching at the pay and allowances which I stated in my former letter. If the Government require all this *increase* of work at various times and distant places, they must raise their terms if they wish to retain the present class of militia surgeons. Living as I have done for the last twenty years at A., the present head-quarters of the regiment, and having a private practice there, how can I do the duties of the regiment when transferred to the depôt centre at B., five miles off, with a training at C., forty miles away, and army corps manœuvres at D., forty miles in another direction?

I conclude by Mr. Hardy's answer, that if am "*not able to perform all the duties required of me,*" I shall be requested to resign. But the real question at issue is not whether the Government are going to "retain the services of the militia surgeons," but *what compensation* they intend to allow them on their forced retirement, consequent on the changes and increased duties under the new Acts.

I am, Sir, yours faithfully,

Feb. 22nd, 1876. A MILITIA SURGEON OF TWENTY YEARS' STANDING.

WATERLOO TOWNSHIP.

To the Editor of THE LANCET.

SIR,—You were good enough some time since to notice in your journal the state of the public health in this district in a paragraph headed "A Healthy Township." Herewith I send you an extract from my yearly report to the Local Board of Health for the last year (1875):—

Waterloo with Seaforth Local Board District.—There were registered in this district during 1875, 153 births, being a birth-rate of 22·02 per 1000 of the estimated population (6950), and 72 deaths, or a death-rate of 10·37 per 1000 nearly. In March the death-rate was the highest, there being 12 deaths, or a rate of 20·72 per 1000 per annum nearly; and June was the lowest, there being but 1 death, or at the rate of 1·73 per 1000 per annum. There were but 5 deaths from zymotic causes during the year, and in only one instance was I called on to give a certificate for the abatement of nuisances.

Yours truly,

W. S. LIMRICK,
Waterloo, Jan. 31st, 1876, Medical Officer of Health.

P.S.—This district is but five miles from the Liverpool Exchange.

THE EAGLEY EPIDEMIC.

To the Editor of THE LANCET.

SIR,—In your journal of Saturday last, referring to the Eagley epidemic, I find the following statement:—"The milk appears.....to have been poor, containing 88 per cent. of water and 12 per cent. of solids; but it was not so poor as to justify the statement that it had been 'excessively impoverished,' nor as to prove adulteration."

There seems to have been a misapprehension as to the amount of solids. According to the only two analyses of the suspected milk, the amount was found in one case to be 11·2, and in the other 11·35 per cent. of solids. Adulteration of these samples was never suspected; but in both instances the analyses showed that they were "excessively poor."

Yours faithfully,

Bolton, Feb. 23rd, 1876. E. SERGEANT, M.O.H. & P.A.

ERRATUM.—An obvious printer's error occurred in Mr. Lawson Tait's letter on "Premature Closure of the Foramen Ovale," published on page 304 of our last issue. For "portal," in the first line of the second paragraph, read *fœtal*.

COMMUNICATIONS not noticed in the current number will receive attention in our issue of the ensuing week.

COMMUNICATIONS, LETTERS, &c., have been received from—Dr. Brunton, London; Dr. Percy, London; Prof. Tyndall, London; Dr. Fothergill, London; Mr. Crowfoot, Beccles; Dr. Lewis, Basingstoke; Mr. Hardman, Blackpool; Mr. Peckham, Pendlebury; Dr. Maclagan, Dundee; Mr. R. C. Lucas, London; Mr. Hannay, Hanley; Dr. Austin, Tongue; Mr. White, Manchester; Dr. Coombs, Castle Cary; Mr. Grace, Bristol; Mr. G. Field, London; Mr. Weston, London; Mr. Grant, Birmingham; Mr. Snelgrove, London; Mr. Newsom, Cork; Mr. Parkes, New York; Dr. Farrar, Bradford; Dr. Monaghan, Radstock; Mr. Ball, Cork; Dr. Rosenstein, Philadelphia; Mr. W. P. Harris, London; Mr. Cartwright, London; Mr. Frowde, London; Dr. Broadbent, London; Dr. P. Eade; Mr. Brew, Brighton; Mr. May, Forest-hill; Dr. Peiros, Upton; Dr. Roberts, Denbigh; Dr. Rayne, Manchester; Mr. Southall, Worcester; Mr. T. Jones, London; Mr. R. King, London; Dr. Burchell, Leeds; Mr. W. Marriott, London; Mr. Simpson, Ambleside; Mr. Alexander, Hull; Mr. Whitehead, Manchester; Mr. Scott, London; Mr. MacCormac, London; Mr. Almond, Edinburgh; Dr. Wright, Skelmersdale; Mr. Catley, Wakefield; Mr. Horsley, Wandsworth, Dr. Edis, London; Mr. Thomas, Narberth; Dr. Williams, Southsea; Mr. Cresswell, Dowlais; Mr. Crocker, Plymouth; Dr. Taylor; Dr. Lowe, Lynn; Dr. Williams, Southsea; Dr. Wollaston, Lyme Regis; Dr. Charteris, Glasgow; Dr. Warren, Paris; Mr. Reeves, London; Mr. Taylor, Glastonbury; Mr. Roberts, Derby; Mr. Pethertes; Dr. Tuaffe, Brighton; Dr. Drummond, Oldham; Mr. Brown, Gateshead; Mr. Hill, Lowestoft; Mr. Holdings, Ware; Mr. Monk, Hull; Mr. Forster, London; Mr. Sergeant, Bolton; Dr. Geoghegan, Chester; Dr. Davies, Maidstone; F. W. A.; Medicus; Cedric; A Medical Officer in the Amersham Union; Not a Fellow; T.; A Public Vaccinator; M.D., Bombay; M. S. S.; J. F. E.; A Militia Surgeon of Twenty Years' Standing; A. W. A.; General Secretary, British Medical Association; The Secretary of the Obstetrical Society of London; The Registrar, Royal College of Physicians; Nobody; Conservative; An Aberdeen Student; Iatros; A. M. D.; Registrar-General, Edinburgh; Layman; D. W. W.; Veritas; Local Secretary; Justice; &c. &c.

LETTERS, *each with enclosure*, are also acknowledged from — Dr. Browne, Belfast; Messrs. Goodall and Co., Leeds; Mr. Dowman, Hartland; Mr. Smith, Weston-super-Mare; Mr. Howard, Belize, Honduras; Dr. Fox, Broughton; Mr. Bryce, Shrewsbury; Mr. Jamieson, London; Mr. Bull, Emsworth; Dr. Medlicott, Wells; Mr. Mercer; Dr. Weekes, Chatham; Mr. Harris, London; Mr. R. S. Leggatt, Eastry; Mr. Williams, Bangor; Dr. March, Bradford; Mr. Curtis, Yeovil; Dr. Gramshaw, Easingwold; Sigma; Vendor; M.D., Taunton; T. E. D., Leek; Physician; Epsilon; J. W., Warwick; Medicus, London; Reflex, Chesterfield; Alpha; G. G., Westward Ho; Iota; Station; W. R. H., Westbury; M. B., London; M.D., Birmingham; H. S., London; L.; A. B., Sheffield; Z., Maldon; W. G., Newton Abbot; A. B., London; A. F. K.

Cork Constitution, Western Morning News, East London Observer, Bolton Evening News, Manchester Guardian, Metropolitan, Surrey Advertiser, Local Government Chronicle, Birmingham Morning News, Western Daily Mercury, Brighton Herald, Tenby Observer, Barnsley Chronicle, Southsea Observer, Hampshire Telegraph, Bedfordshire Times, and *Dover Telegraph* have been received.

METEOROLOGICAL READINGS

(Taken daily at 9 a.m. by Steward's Instruments.)

THE LANCET OFFICE, FEB. 24TH, 1876.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Wet Bulb.	Dry Bulb	Solar Radia in Vacuo	Max. Temp. Shade	Min. Temp.	Rainfall.	Remarks at 9 A.M.
Feb. 18	29·57	S.W.	46	51	...	60	48	0·03	Cloudy
" 19	29·34	W.	44	46	...	56	44	0·12	Cloudy
" 20	29·61	S.E.	34	36	...	42	33	...	Overcast
" 21	29·83	W.	50	52	...	55	41	0·36	Overcast
" 22	29·38	W.	46	50	...	56	46	0·03	Cloudy
" 23	29·09	W.	45	47	...	51	44	...	Cloudy
" 24	30·07	W.	35	39	...	...	34	...	Bright

Medical Diary for the ensuing Week.

Monday, Feb. 28.

ROYAL LONDON OPHTHALMIC HOSPITAL, MOORFIELDS.—Operations, 10½ A.M. each day, and at the same hour.
ROYAL WESTMINSTER OPHTHALMIC HOSPITAL.—Operations, 1½ P.M. each day, and at the same hour.
ST. MARK'S HOSPITAL.—Operations, 9 A.M. and 2 P.M.
METROPOLITAN FREE HOSPITAL.—Operations, 2 P.M.
ROYAL COLLEGE OF SURGEONS OF ENGLAND.—4 P.M. Prof. Flower, "On the Relation of Extinct to Existing Mammalia."
MEDICAL SOCIETY OF LONDON.—8½ P.M. Clinical Evening.—Communications by Dr. Brunton, Dr. Heywood Smith, Mr. Richard Davy, and others.

Tuesday, Feb. 29.

GUY'S HOSPITAL.—Operations, 1½ P.M., and on Friday at the same hour.
WESTMINSTER HOSPITAL.—Operations, 2 P.M.
NATIONAL ORTHOPÆDIC HOSPITAL.—Operations, 2 P.M.
WEST LONDON HOSPITAL.—Operations, 2 P.M.

Wednesday, March 1.

MIDDLESEX HOSPITAL.—Operations, 1 P.M.
ST. MARK'S HOSPITAL.—Operations, 1½ P.M.
ST. BARTHOLOMEW'S HOSPITAL.—Operations, 1½ P.M., and on Saturday at the same hour.
ST. THOMAS'S HOSPITAL.—Operations, 1½ P.M., and on Saturday at the same hour.
KING'S COLLEGE HOSPITAL.—Operations, 2 P.M., and on Saturday at 1½ P.M.
GREAT NORTHERN HOSPITAL.—Operations, 2 P.M.
UNIVERSITY COLLEGE HOSPITAL.—Operations, 2 P.M., and on Saturday at the same hour.
LONDON HOSPITAL.—Operations, 2 P.M.
SAMARITAN FREE HOSPITAL FOR WOMEN AND CHILDREN.—Operations, 2½ P.M.
ROYAL COLLEGE OF SURGEONS OF ENGLAND.—4 P.M. Prof. Flower, "On the Relation of Extinct to Existing Mammalia."
ROYAL MEDICAL AND CHIRURGICAL SOCIETY.—8 P.M. Annual Meeting; Election of Officers; Report; and Address of the President.

Thursday, March 2.

ST. GEORGE'S HOSPITAL.—Operations, 1 P.M.
ROYAL ORTHOPÆDIC HOSPITAL.—Operations, 2 P.M.
CENTRAL LONDON OPHTHALMIC HOSPITAL.—Operations, 2 P.M., and on Friday at the same hour.
HARVEIAN SOCIETY.—8 P.M. Dr. Wiltshire, "On Pruritus Vulvæ."

Friday, March 3.

ST. GEORGE'S HOSPITAL.—Ophthalmic Operations, 1½ P.M.
ROYAL SOUTH LONDON OPHTHALMIC HOSPITAL.—Operations, 2 P.M.
ROYAL COLLEGE OF SURGEONS OF ENGLAND.—4 P.M. Prof. Flower, "On the Relation of Extinct to Existing Mammalia."

Saturday, March 4.

ROYAL FREE HOSPITAL.—Operations, 2 P.M.
CHARING-CROSS HOSPITAL.—Operations, 2 P.M.

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